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ABSTRACT

The Computer Assisted Instruction (CAI) Project, from the Merrimack Education Center, is an alternative, supplementary approach to providing reading, mathematics, and language arts instruction in local schools. Beginning in 1979, a 3-year project was begun to determine whether the addition of a CAI System to regular Elementary Secondary Education Act (ESEA) Title I programs in reading and mathematics would result in superior student achievement gains compared with those observed for Title I students who had not been exposed to CAI. Normal curve equivalent gain scores on the Metropolitan Achievement Tests (Metro 78) Survey Component, Basic Battery were used in all analyses. Two-way analysis of variance was the analytical model employed with treatment (CAI or Non-CAI) and grade level as main effects for data from each of the 3 years. Results showed a clear, and usually significant, effect attributable to the CAI treatment for both reading and mathematics throughout the 3-year period. In the third year, results for both reading and mathematics were significant. No interaction between treatment and grade level was found, though grade level was often a significant effect. (Author/PN)

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LONGITUDINAL EVALUATION OF THE

C /A /I

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COMPUTER ASSISTED INSTRUCTION

TITLE 1 PROJECT

1979–82

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COMPUTER ASSISTED INSTRUCTION

EXECUTIVE SUMMARY

April, 1983

MAJOR PROGRAM ELEMENTS

The Computer-Assisted Instruction (CAI) Project, from the Merrimack Education Center, is an alternative, supplementary approach to providing reading, mathematics and language arts instruction in local schools. The service delivery, carried out through an educational service center, has proven CAI to be effective when compared to traditional classroom instruction and, especially, when used to supplement instruction by the teacher in the Chapter I classes. The Merrimack CAI Project was validated by the Joint Dissemination Review Panel, Spring, 1982. Other national studies have consistently shown that increased achievement results from the use of CAI as a supplement to traditional instruction.[1]

The CAI activities are integrated into the Chapter I program in a supplementary fashion, and the instructional activities, planned in conjunction with CAI lessons, enhance the individualized student programs. Instructional objectives of selected computer courseware in reading, mathematics and language arts, are matched with objectives of the locally existing curriculum. The teacher's planned lessons introduce, review or extend material which is then presented on the CAI computer terminal each day for review and extended practice. Therefore, the CAI lessons are supplementary to the teacher's classroom instruction for individual or small group tutorial instruction.

Daily CAI drill and practice, for ten minutes of each lesson, helps to improve a particular skill, whereas the tutorial component of CAI demonstrates to the student the instructional skill with descriptive material. From there, the CAI program is able to branch into further examples of the same skill or, if the pupil has responded appropriately, progress to a higher level skill with further examples and practice exercises.

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[1] Judith Edwards, et al. "Is CAI Effective?" AEDS Journal, Summer, 1974, pp. 122-126.

This potential of CAI as a technology, complete with tutorial and branching capabilities, extends beyond the capabilities of other instructional media because it is inherently interactive and can provide appropriate amounts and kinds of reinforcement at specific levels of difficulty. Using a terminal, CAI presents a dialogue where the student can respond to the program, ranging from simple exchange in structured formats to natural language conversations. No other existing teaching tool provides the richness of information, response analysis, hands-on practice and individualized treatment as in the current CAI programs.[2]

As part of the service delivery, the CAI program combines commercially-available courseware with supportive organizational arrangements including staff development, materials and manuals, hardware and software maintenance, management systems and technical assistance to all participating schools. The courseware used by the project has been implemented in other school district settings with similar consistently positive findings.[3, 4] Replicability of the drill and practice and tutorial components can therefore be guaranteed because the curriculum is standardized and packaged in strands. A brief description of the composition of the curriculum courseware is provided in Appendix A.

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[2] In 1971, J. Vinsonhaler reviewed ten major studies of the evaluation of CAI Drill and Practice and reported a substantial advantage for CAI augmentation of classroom instruction stating that "generally CAI groups show performance gains of one to eight months over groups receiving traditional instruction".

[3] Marjorie Rogosta, et al., CAI and Compensatory Education: The Los Angeles Unified School District Study, Educational Testing Service, Princeton, New Jersey, 1982.

[4] J. Fletcher and D. Jamison report higher average gain for CAI students on the California Test of Basic Skills and the California Arithmetic Test. Stanford University, California, 1973. "CAI and Educational Achievement".

Monitoring Student Progress

Diagnostic-prescriptive teaching has been hailed as the most desirable approach to use in Chapter I programs that emphasize comprehensive assessment of each student and specific instructional plans or prescriptions are then based on student-measured strengths and weaknesses. By such means, CAI allows the student to progress more rapidly and skill areas in need of additional attention are identified and better able to be remediated. These examples of diagnostic teaching in both reading and math are commonplace in the CAI schools.

The reinforcing capabilities of CAI, combined with teacher observation and performance testing, present the student small "bites" that are very carefully organized in the curriculum strands. Furthermore, CAI assists in compiling information about each student's performance as the student progresses through the curriculum. The recordkeeping function of CAI, which is not feasible for individual teachers to maintain manually, makes possible an additional means by which diagnostic-prescriptive teaching can progress.

Throughout the school year, students can easily be followed in mathematics and reading comprehension (both literal comprehension and interpretive comprehension) as well as word study skills. For example, in grade six reading, the vocabulary (word study) strand introduces 350 appropriate new vocabulary words at each grade level. This strand also contains practice in recognizing synonyms and antonyms. The vocabulary strand represents nearly 30% of the entire curriculum in Reading for Comprehension and its size reflects the importance of developing an adequate reading vocabulary. Word attack represents only 15% of the CAI curriculum at grade six, and comprehension (literal and inferential) represent another 30%. A typical student who enters the sixth grade with a vocabulary of 4.0 grade level could conceivably finish the year reading words at level 5.6 by the end of April. Individual student gain reports are recorded on the computer and reviewed by the teacher to examine student progress in two ways: (a) the percent of students mastering a particular objective; and, (b) the average number of skills mastered by a pupil at each grade level.

The information compiled by the computer on each student serves not only to guide a particular lesson, but also allows reports to be generated for teachers concerning areas of growing strength or continued weakness enabling professional judgements to be made about changing a prescription in progress. Teachers can then alter the curriculum strand or provide special drill and practice in the daily small group/tutorial sessions. Reports from the CAI include gains, grouping and course reports; any student's progress for the prior month or the entire year can be printed for the teacher to analyze. Gains and current status for each student in each of the several curriculum strands can be provided from the computer.

Research Question

Beginning in school year 1979-1980, a three-year research project was carried out to determine effectiveness of CAI. The research was planned to answer whether computer learning could improve relevant test scores measured on standardized achievement tests. A quasi-experimental research design was utilized, with a comparison group. Student achievement gains on the Metropolitan Achievement Test (Metro '78) Fall and Spring, were analyzed to determine whether student achievement was improved by using CAI as a supplement to regular Chapter I programs as compared with those gains observed for Chapter I students who had not been exposed to CAI.

Evaluations conducted separately in each program year (1979 through 1982) showed the supplementary CAI treatment to have been more effective than were regular services alone.

Summary of Findings

This evaluation study has shown CAI drill and practice to be effective when it is used to supplement classroom instruction in the Chapter I (Title I) program. During the 1979-1980 school year, it was found that the CAI treatment was superior to the non-CAI treatment for students in mathematics; the overall analysis for all math groups combined showed highly significant results favoring the CAI treatment.

These results for math were consistent across all grades, which is an added indication of replicability of this study. Results obtained in Spring of 1980 showed significant gains in mathematics instruction; in 1981, significant gains were also recorded for reading instruction. The CAI programs have had measurable, positive effects on student performance in both math and reading. In Spring, 1982, the reading gains were validated by the Joint Dissemination Review Panel (JDRP), Washington, D.C., which functions out of the Department of Education.

Students Participating in the Evaluative Study

School building sites were selected to constitute a comparison group of Title I students. The study provided comparison students from within Title I classrooms and, from non-CAI schools with Title I programs. Often these students were within the same school building that housed the CAI laboratory and, in those cases, students were assigned to treatment group or comparison group at random. However, in some other cases, students were not available in sufficient numbers to construct both a CAI and a comparison group, within the same building. In these cases, students from neighboring schools, who attended Title I classes, were selected to constitute a comparison group. To minimize the affects of non-random assignment, students in the comparison group at each grade level were deliberately and carefully chosen and groups were tested using the criterion measure as a pretest to determine whether the groups were significantly different at the outset. Where possible, outliers were identified and eliminated so as to make the experimental and comparison groups as similar as possible at the beginning of each program year. The resulting CAI and comparison groups were sufficiently alike that they may safely be considered to have been comparable at the outset of the year's activities. Students in all Title I classes received equal amounts of time with the CAI students assigned, for 10 minutes of their time allotment, to use the CAI terminals each day.

Instruments

Students were tested each fall and spring with the Metro '78 Survey Component, Basic Battery. Appropriate forms and levels of the Metro '78 were used in testing all students participating. All testing was conducted under the supervision of local Chapter I directors and certified classroom teachers who administered and scored the tests. The independent firm of Metrics Associates of Chelmsford, Massachusetts, was contracted to conduct data analysis using the Boston College computer, Chestnut Hill, Massachusetts. Metrics Associates prepared a design that would be robust to the conditions and procedural limitations presented by the learning environments. As part of the design, Metrics analyzed the testing data and compared two groups of students, at several grade levels, in terms of relative gain in achievement using the pre-test/post-test, quasi-experimental research design.[5] Figure 1 shows the research design.

Treatment

Treatments given the two groups, CAI and non-CAI comparison group respectively, were as follows:

> CAI Group: 30 minutes of Title I instruction on a daily basis, with ten minutes of that daily classroom instruction allocated to CAI.
>
> Non-CAI Comparison Group: students in the comparison group also received 30 minutes daily of Title I class instruction but did not interact with the CAI system.

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[5] Metrics Associates, Inc. Evaluation of the Merrimack CAI Project. See evaluation reports for 1979, 1980, 1981 and 1982, four volumes Chelmsford, Massachusetts: Metrics Associates.

FIGURE 1

Evaluation Design for Merrimack Education Center's Computer-Assisted Instruction Project

Group	Assignment+	Pre* Test	Title I Treatment	Post* Test	Description of Students
Experimental	Random Where Possible	Metro 78 October	CAI and Regular Title I	Metro 78 May	Eligible with greatest need
Comparison	Random Where Possible	Metro 78 October	Regular Title I	Metro 78 May	

+ In several cases, random assignment of students to treatments was not possible. See text for explanation.

* Metropolitan Achievement Tests, Metro 78, Survey Component, Basic Battery[6]

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[6] The ETS study of Los Angeles Unified School District also used curriculum specific tests for each grade level composed of 100 to 120 questions taken directly from the CAI curriculum. CAI treatment effect was obtained by a regression analysis which determined the difference in performance between experimental and control groups after adjustments had been made for pretest scores, sex, ethnicity and specific classroom variables. See, Rogosta, et al., 1982.

Data Analysis

Evaluation staff at the Merrimack Education Center verified scoring and conversion of raw scores to scaled scores. Metric Associates staff verified score conversions and constructed data sets from scaled scores and the scaled scores were, in turn, converted first to percentile ranks and then to normal curve equivalents. Treatment effects were translated into equivalent percentile scores whereby NCEs[7] were derived. As a consequence of using NCE scores in all analyses, any combination of grade levels within the same subject area could be legitimately analyzed as a unit. Sufficient numbers of students did not exist at all grade levels to make their individual comparison meaningful. Therefore, grade level groups were combined such that sufficient numbers of children were present in each treatment group. The grade level groups approximated elementary (Grades 2, 3, 4), later elementary (grades 5 and 6) and middle school (grades 7, 8 and 9).

The principal analytical tool used in analyzing the data was analysis of covariance. For each group of grade levels, and for the group as a whole across grades, pre-test NCE scores were used to perform covariance adjustments on post-test NCE scores prior to testing their mean difference for statistical significance.

Having both pre and post measures for each student meant that gains for each student could be inspected to see whether differential gains were present for the two treatment groups. Though they do indeed show the amount of gain experienced by each student, they are inherently rather unreliable, are subject to regression effects and ceiling effects of the instruments used, and do not reflect differential rates of learning which may characterize the groups prior to introduction of the treatments. Gain scores are reported for each group analyzed in an effort to achieve completeness of reporting, but the reader is cautioned concerning their over-interpretation.

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[7] NCE's are Normal Curve Equivalents; this NCE scale closely matches the percentile distribution, hence has some of the qualities of interpretation inherent in percentile scores. According to the Office of Education, any NCE gain greater than zero means that the pupils profited from participating in the project.

Residualized gain scores, i.e., post-test scores that were adjusted to take into account differences between the groups at pre-test time, were reported in each case. These altered post-test scores can then be analyzed by means of analysis of covariance to compensate for initial differences between the treatment groups.

RESULTS

The evaluation study was proposed to determine whether the CAI supplement, to an otherwise traditional Chapter I program, would produce incremental and statistically significant gains in achievement for those students who received the CAI treatment. On standardized tests of mathematics and reading (Metro 78) the CAI students were contrasted with the comparison group.

Reading Results

Table 1 shows results for experimental and comparison groups on both the pre-test and post-test in reading. All analyses here reported were conducted using Noral Curve Equivalent scores (NCEs).

TABLE 1
SUMMARY OF ANALYSES OF COVARIANCE BY GRADE LEVEL GROUP
CAI READING

1981 Evaluation Report

	N's		Means Pre		SD's Pre		Pre-Test	Unadjusted Means	Post	SD's Post		Adjusted Means	Post	Post-Test
Grades	Exp	Comp	Exp	Comp	Exp	Comp	P	Exp	Comp	Exp	Comp	Exp	Comp	P
2	50	70	38.35	38.57	14.49	13.14	.928	47.74	40.90	16.39	16.75	48.17	40.59	.008
3-4	82	99	36.15	38.68	11.00	10.56	.106	40.35	39.26	11.25	13.34	41.67	38.58	.051
5-6	40	63	35.92	37.63	12.52	12.40	.435	42.35	37.95	11.33	11.48	43.26	37.38	.002
7-9	70	35	34.13	38.41	12.39	12.31	.101	42.07	36.76	12.42	16.22	43.31	34.29	<.001
2-9 comb	242	267	36.59	38.59	12.69	12.36	.055	43.15	39.45	14.29	14.43	43.93	38.64	<.001

The CAI groups in 1981 outperformed the comparison goups consistently at all grades at a statistically significant level (<.001). Table 2 presents an analysis of the mean NCE gain by grade level groups, indicating statistically significant gains in favor of CAI students.

TABLE 2
ANALYSIS OF GAIN SCORES - READING 1981

	N's		Mean NCE Gain		
Grades	Exp.	Comp.	Exp.	Comp.	P
2	50	70	10.27	1.94	.008
3-4	82	99	4.66	.63	.018
5-6	40	63	6.84	-.28	.001
7-9	70	35	8.12	-1.64	.001
2-9 Combined	286	274	7.00	.72	.001

TABLE 1

Summary of Analyses of Covariance
By Grade Level Group

CAI READING

1981 Evaluation Report

								Unadjusted				Adjusted		
	N's		Means Pre		SD's Pre		Pre-Test	Means Post		SD's Post		Means Post		Post-Test
Grades	Exp	Comp	Exp	Comp	Exp	Comp	P	Exp	Comp	Exp	Comp	Exp	Comp	P
2	50	70	38.35	38.57	14.49	13.14	.928	47.74	40.90	16.39	16.75	48.17	40.59	.008
3-4	82	99	36.15	38.68	11.00	10.56	.106	40.85	39.26	11.25	13.34	41.67	38.58	.051
5-6	40	63	35.92	37.63	12.52	12.40	.488	42.35	37.95	11.03	11.48	43.26	37.38	.002
7-9	70	35	34.18	38.41	12.39	12.81	.101	42.07	36.76	12.42	16.22	43.31	34.29	<.001
2-9 comb	242	267	36.59	38.59	12.69	12.36	.055	43.15	39.45	14.29	14.43	43.93	38.64	<.001

Mathematics Gains

The evaluation report for 1980 indicates the positive effects of CAI instruction in math as well. First and second grade students gained in total arithmetic achievement 18 NCEs in one year (1981). Gains in mathematics were significantly greater for those in the CAI classes than for those in the comparison groups for all nine grades in 1979. In each of the nine grades, the improvement in mathematics (grade placement and NCE scores) achieved by students in CAI was significantly greater than that achieved by the comparison students. Each of the four CAI grade groups showed a higher average gain on the Metropolitan Achievement Test than the comparison groups.

TABLE 3

ANALYSIS OF GAIN SCORES
BY GRADE LEVEL GROUP

MATHEMATICS - 1980

	N's		Means Pre		Means Post		Mean Gain				
Grades	Exp.	Comp.	Exp.	Comp.	Exp.	Comp.	Exp.	Comp.	t	df	p
1-4	109	121	434.61	403.40	542.40	509.78	107.80	106.38	.16	228	.872
5-6	52	69	581.10	610.93	658.75	665.87	77.65	54.94	2.15	119	.034
7-12	36	89	721.97	666.94	766.69	700.25	44.72	33.30	1.02	123	.309
1-12 combined	197	279	525.79	538.79	614.10	609.14	88.31	70.34	2.82	474	.005

The post-test probabilities, reported at the extreme right of the tables, indicate whether the comparisons are regarded as statistically significant (i.e., .05 or less is regarded as reflecting a significant difference). The overall analysis for all mathematics students showed highly significant results, favoring the CAI treatment; CAI students achieved at a higher level than did the non-CAI students, and the difference is probably not due to chance.

TABLE 3

Analysis of Gain Scores
By Grade Level Group

MATHEMATICS - 1980

	N's		Means Pre		Means Post		Mean Gain				
Grades	**Exp.**	**Comp.**	**Exp.**	**Comp.**	**Exp.**	**Comp.**	**Exp.**	**Comp.**	**t**	**df**	**p**
1-4	109	121	434.61	403.40	542.40	509.78	107.80	106.38	.16	228	.872
5-6	52	69	581.10	610.93	658.75	665.87	77.65	54.94	2.15	119	.034
7-12	36	89	721.97	666.94	766.69	700.25	44.72	33.30	1.02	123	.309
1-12 combined	197	279	525.79	538.79	614.10	609.14	88.31	70.34	2.82	474	.005

Discussion

For all grade level groups as is shown in Table 1, the CAI reading treatment was significantly more effective in producing achievement gains. Also, the mean NCE gain for CAI students was, in every case, greater than was the corresponding gain for non-CAI students and was statistically significant as is shown in Table 2.

The data presented for reading show the clear, consistent effect of the CAI program. While in all cases pre-test comparisons were slightly in favor of comparison group students, the experimental group (CAI) outperformed comparison groups consistently at all levels. Even unadjusted means portray the consistent effect. The statistically significant effect was replicated across all grade level groupings at probability levels that must be considered educationally meaningful.

The results for mathematics are consistent across all three groups in that the adjusted post-test means for the CAI students are always higher than for the non-CAI students. The results for grades 5 and 6 were not statistically significant, but this was apparently the result of the CAI group having been much lower than the non-CAI group at pre-test time. Analysis of covariance tends to under adjust for pre-test differences to the extent that the groups differ in their pre-test scores. Since the pre-test difference was highly significant, the adjusted post-test difference should actually be larger than it was. Hence, the difference for grades 5 and 6 probably should be regarded as an artifact of imperfect grouping at pre-test time, rather than a departure from the overall significant result.

Analysis Over Three Years

In 1982, it was determined that three data sets were assembled, consisting of: students who continued in the project from year 1 to year 2; students who continued from year 2 to year 3; and students who participated in the program throughout its three-year duration. Normal Curve Equivalent (NCE) gain scores on the Metropolitan Achievement Tests (Metro 78) Survey Component, Basic Battery were used in all analyses for all three years.

Only 52 students continued in the program over its three-year period, resulting in the proposed three-year analyses being abandoned. N's in each of the two-year data sets were sufficient to be analyzed, but serious questions about the representativeness of these samples in respect to their parent populations were raised, which limits the generalizability of this study based upon results of the two-year data sets.

For several reasons, it was determined that the best way in which to view the project was year by year, not longitudinally. Accordingly, data from each of the three years were analyzed, using a common analysis scheme not previously employed. Two-way analysis of variance was the analytical model employed with treatment (CAI or Non-CAI) and grade level as main effects.

Results of Long-Range Analyses

1. CAI vs. Non-CAI as a Main Effect--In 1980 (year 1), the treatment effect was not significant for students in reading (p=.088), but was significant (p=.012) for students in mathematics, favoring the CAI treatment. In the second year (1981), the CAI group made signficantly greater gains than did the Non-CAI group in reading ($p < .001$) and nearly did so in mathematics (p=.090). The "near" significant results with respect to mathematics appeared to be due to the performance of students in one grade level: grade 6. Sixth graders in Spring, 1980, showed a significant difference which favored the Non-CAI approach. On the assumption that the observed grade 6 results were not representative of the rest of the data set for year 2, a separate analysis was conducted excluding students in grade 6. The results were very close to being significant (p=.061).

In the third year of the project (1982), significant differences were observed in gain scores, favoring the CAI treatment in both reading (p=.010) and mathematics (p=.044).

2. Grade Level as a Main Effect--Grade level was a second independent variable used in all analyses. With regard to reading, grade level was significant in years 1 and 2, but no pattern appeared to be present with regard to differential gains as a function of grade level. In year 3, no grade level effect was observed.

Grade level comparisons presented a different pattern for students in mathematics. For all three years, grade level was a statistically significant main effect. Moreover, in each of the three years the greatest gains in mathematics were made at the lowest grade levels and the least gains at the highest grade levels.

3. Interactions Between Main Effects--The interactions between treatment and grade level were tested in each of the three years. None was statistically significant, though the interactions for mathematics in years 2 and 3 were close to being significant.

Discussion

Results of the three-year study showed a clear, and usually significant, effect attributable to the CAI treatment for both reading and mathematics throughout the three-year period. In the third year of program operation, results for both reading and mathematics were significant. No interaction between treatment and grade level was found, though grade level was often a significant effect.

For reading, the treatment effect was uniform, favored the CAI treatment and was independent of grade level throughout the three years of the project. The results for mathematics were more complex. Apparently, Chapter I became less effective in terms of NCE gains produced as grade level increased. However, the CAI treatment in mathematics became more effective as grade level increased.

At the Merrimack Education Center, experience with the Title I program indicates that CAI is effective with low-achieving students and with those students who have fallen behind one or two grade levels as compared with their age mates. When typical classroom instruction is supplemented with CAI drill and practice and tutorial CAI, students gain more than students who receive the regular Chapter I program only. This is especially true for math at upper grade levels.

This structured program, emphasizing basic skills, is also cost-effective. A low per student/per lesson cost, combined with the achievement gain demonstrates cost-effectiveness. Through this collaborative approach with system maintenance, technical assistance and other supportive organizational arrangements, individual school districts can access effective CAI services to augment instruction in compensatory programs which otherwise would be too expensive and difficult to maintain locally.

The cost of providing computer-assisted instruction is well within the per pupil Chapter I allocations of the typical, traditional compensatory programs. Low per student rates per hour have been reported. Also, computer-assisted instruction can reduce the overall time required to attain mastery of a specific objective. If a cost is attached to student time as well as teacher time, then it appears that CAI is highly cost-effective.

Because of proven achievement gains that have resulted in this CAI application, cost-effectiveness can be shown through the comparative study with students who were not using CAI. Recent national emphasis on improving basic skills, and the implications of Proposition 2 1/2 in Massachusetts, cost reduction and proven cost benefits have potential forall school districts. Over the four-year longitudinal program in schools of the Merrimack Valley, CAI has performed an effective intervention. Evaluation reports for each of three years are available from the Merrimack Education Center.[8]

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[8] Metrics Associates, Inc. Evaluation of the Merrimack CAI Project. See evaluation reports for 1979, 1980, 1981 and 1979-82, four volumes. Chelmsford, Massachusetts: Metrics Associates.

Kiesling has estimated the annual cost of a successful program in compensatory education at $200 to $300 per year per student over and above the normal per student school allotment. Costs as high as $600 and $750 per pupil per year have been reported in the literature. Given a very conservative estimate of $500 per terminal per month on the CAI system, and assuming that a terminal can be used by 25 to 30 students per day, the cost of CAI is well within the typical Chapter I allocation, and it is in line with other compensatory programs that are much more labor intensive. By shifting the burden of drill from the classroom teacher to CAI, the instructional program can be brought into better balance between capital expenditures and labor expenses. The less labor intensive the system becomes, the greater the cost effectiveness that can be achieved.

Results of several other studies of the same CAI courseware in a variety of other settings have also been consistently positive and educationally significant.[9] For instance, Macken and Suppes (1976) describe studies in nine states involving a wide variety of student populations. Average, disadvantaged, and handicapped students who utilize this CAI courseware to augment regular instructional programs consistently outperform comparison groups. The Educational Testing Service in a longitudinal study of CAI in Los Angeles Unified School District, reported significant gains for CAI student's computational skills when compared to control students. Furthermore, doubling the amount of time spent on CAI also doubled the gains for the students in their computational skills. Longitudinally, during the second and third years of CAI mathematics, the students significantly increased their gains. Smaller, but consistently positive results were also obtained in the reading and language skills during the first year of CAI; and, these skills were maintained over additional years of CAI.

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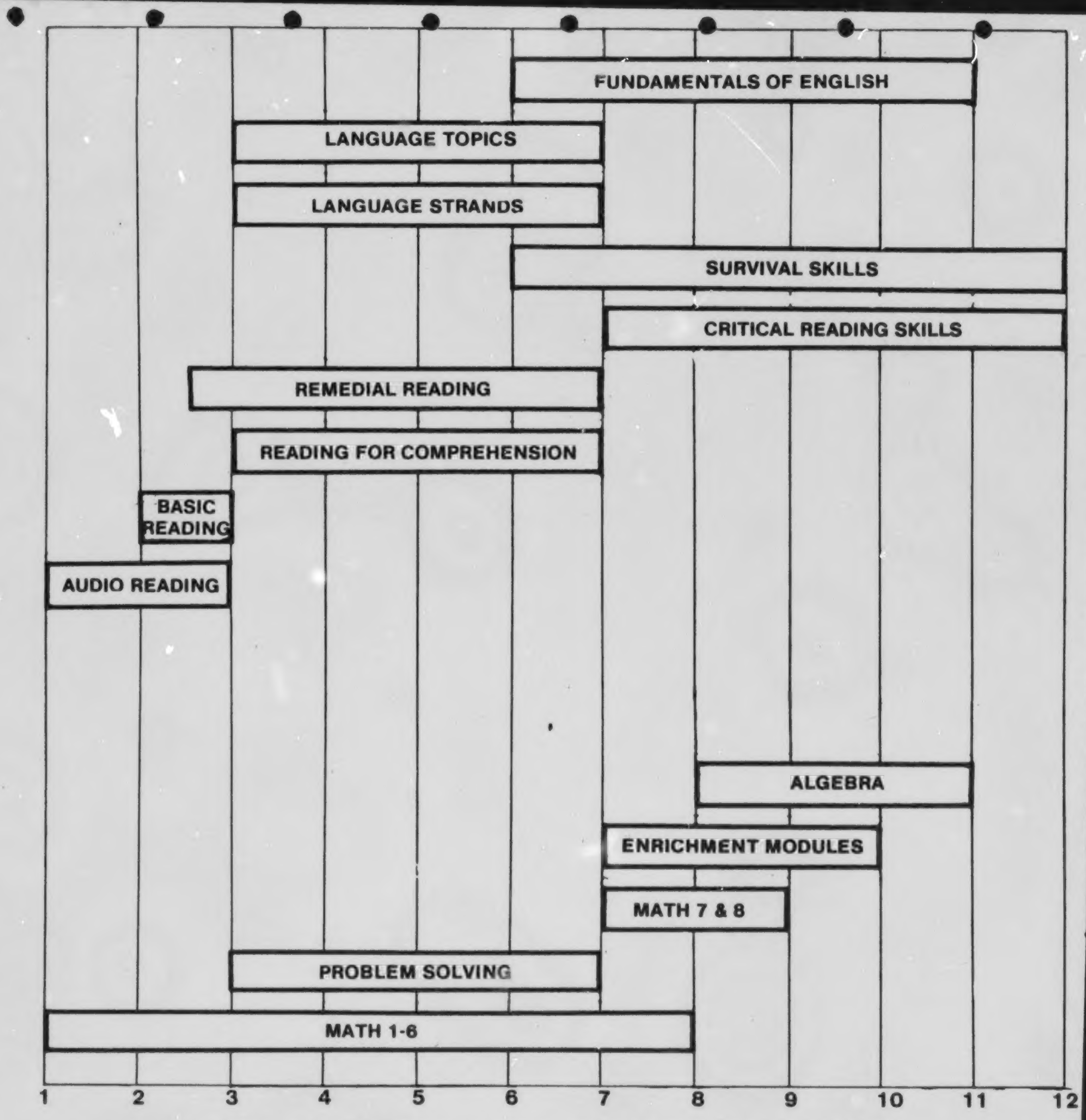
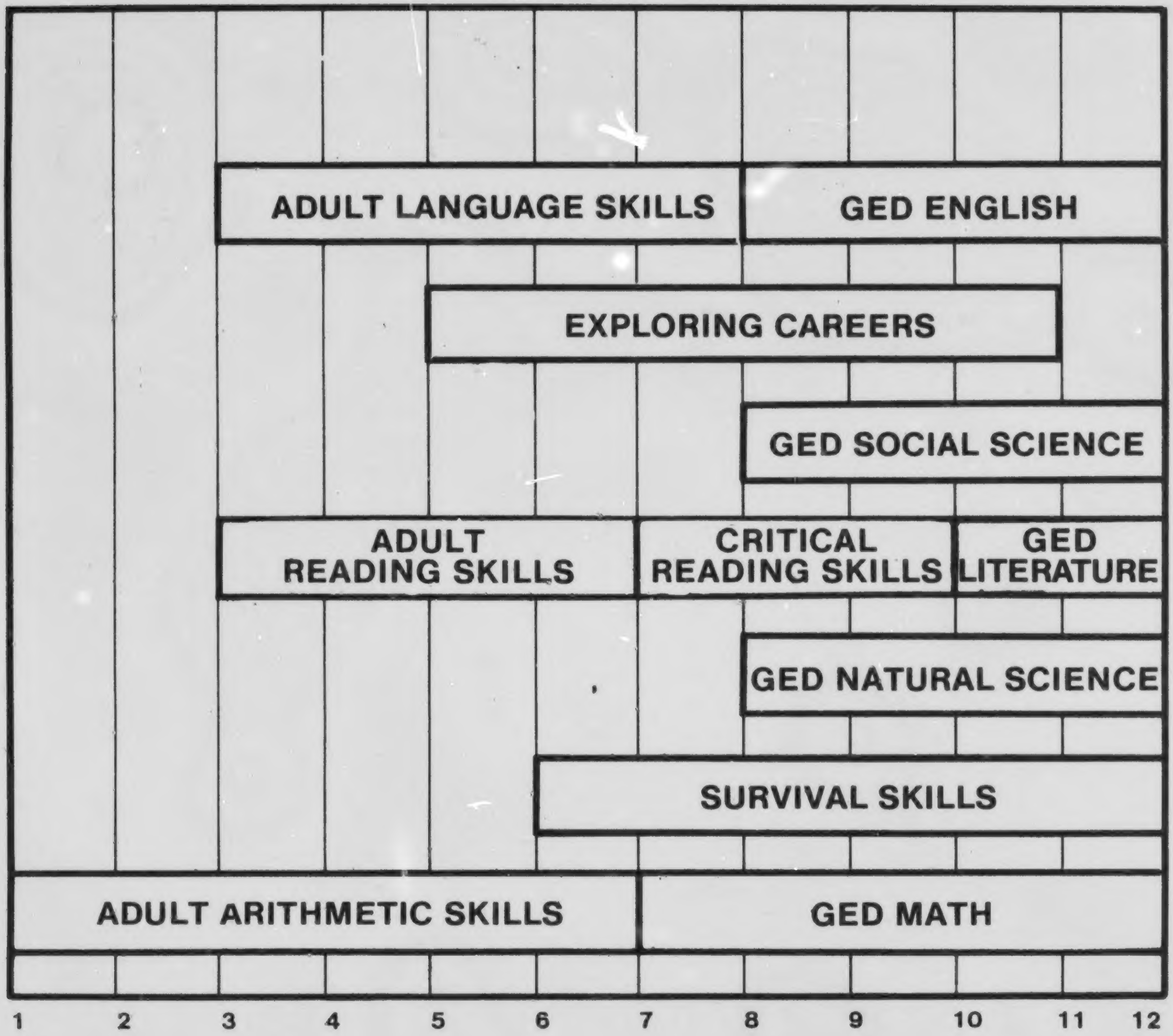
[9] Jamison, D., and Pat Suppes. Estimated costs of computer-assisted instruction for compensatory education. Instructional Technology, 1970, 10, 49-57.

These consistent, statistically significant results in other settings reinforce the results of analysis of the Merrimack Education Center study. Additionally, the Merrimack study demonstrates how an educational collaborative serving multiple school districts, can consistently deliver effective CAI programming concurrently in several school districts and schools.

This model of CAI curriculum is currently being successfully implemented by educational service agencies and local schools across the country. Structured staff training experiences help teachers utilize CAI student feedback to augment the standard curriculum. Manuals and other supportive materials are available. No special computer programming training is required of participating teachers. The computer system is managed at the central facility. While teachers need not learn computer programming or how to manage the hardware, they are trained in prescribing CAI lessons appropriate to indiviudal student's diagnosis and how to effectively use feedback use to select future lessons.



CAI CURRICULUM BY GRADE LEVEL



ADULT CURRICULUM BY GRADE LEVEL

LONGITUDINAL

EVALUATION OF THE

CAI

COMPUTER ASSISTED INSTRUCTION

TITLE I PROJECT

1979-1982

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ABSTRACT

Beginning in the school year 1979-1980, a three year project was begun whose purpose was to determine whether the addition of a computer assisted instruction (CAI) system to regular ESEA Title I programs in reading and mathematics would result in superior student achievement gains as against those observed for Title I students who had not been exposed to CAI. Evaluations conducted in each year generally showed the CAI treatment to have been more effective, when coupled with regular Title I services, than were the regular services alone.

It was determined that a longitudinal analysis of students who continued in the program from one year to the next, and across all three years, was in order to inspect the longer-term effects of CAI in a Title I environment.

Three data sets were assembled, consisting of: 1) students who continued from year 1 to year 2; 2) students who continued from year 2 to year 3; and, 3) students who participated in the program throughout its three year duration. Normal Curve Equivalent (NCE) gain scores on the *Metropolitan Achievement Tests (Metro 78) Survey Component, Basic Battery* were used in all analyses.

N's observed in each of the three longitudinal data sets were disappointing. Only 52 students continued in the program over its three year period, resulting in the proposed three year analyses being abandoned. N's in each of the two year data sets were sufficient to be analyzed, but serious questions about the representativeness of these samples in respect to their parent populations were raised, calling into question both the accuracy and utility of interpretations based upon results from the two-year data sets.

For several reasons, it was determined that the best way in which to view the project was year by year, not longitudinally. Accordingly, data from each of the three years were reanalyzed, using a common analysis scheme not previously employed. Two-way analysis of variance was the analytical model employed with treatment (CAI or Non-CAI) and grade level as main effects.

Results showed a clear, and usually significant, effect attributable to the CAI treatment for both reading and mathematics throughout the three year period. In the third year of program operation, results for both reading and mathematics were significant. No interaction between treatment and grade level was found, though grade level was often a significant effect.

It was recommended that the CAI program continue to be implemented where it is in place and that its implementation be expanded to other Title I programs in reading and in mathematics.

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INTRODUCTION

For the past three years, six communities in northeastern Massachusetts have included computer assisted instruction in their regular ESEA Title I programs. The use of CAI in these programs was predicated on the assumption that its unique properties would produce achievement gains over and above those which are characteristic of conventional approaches to Title I instruction. In the academic years 1979-80 through 1981 - 82, data have been gathered with the objective of determining the relative effectiveness of CAI as against conventional instruction in a compensatory education setting.

In program year 1979-1980, it was found that the CAI treatment was superior to the non-CAI treatment for students in mathematics as reflected by highly significant differences favoring the CAI treatment. For students in reading, it appeared to be the case that the CAI treatment was moderately effective in the lower elementary grades relative to the non-CAI treatment, but that a reversal of effects occurred in the junior high and high school levels.

In program year 1980-81, it was found that the CAI treatment was superior to the non-CAI treatment for students in reading as reflected by highly significant differences which favored the CAI treatment. Differences noted in mathematics favored the CAI treatment in nearly every case, but in many instances were not statistically significant.

Data for program year 1981 - 82 have been gathered and analyzed. Results showed the CAI treatment to have been superior to the Non-CAI treatment in both reading and mathematics.

At first glance, the results from the first two program years (1979-1980, 1980-1981) appear to be in conflict. In fact, several changes in the sites at which the program was conducted had to be made for logistical reasons. This meant that the program, and the students who participated in it, were rather different in the two program years. Also, several problems arose in the first year having to do with evaluation design compliance which served to make the results from that year questionable, though suggestive and encouraging concerning the effectiveness of CAI.

It was determined that a longitudinal analysis of those students who had participated in the program over the three year period was in order. By focussing on the continuing students, two advantages could be obtained. First, analyses could be conducted using the same people rather than a larger, but changing group. Second, any cumulative effects attributable to CAI could be observed.

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FILE RESTORATION AND MERGING

At the outset of the program, each student was assigned a unique identification number. This was done for two reasons. First, to enable achievement data for each student to be merged with data generated by the management routines which are part of the CAI system. Second, the numbers were assigned in anticipation of a later longitudinal analysis of the data.

Given the ID numbers, it was possible to match merge the data sets for the first two program years, the last two program years, and across all three years to identify those students who had continued in the program in each of these time spans. There were numerous problems in doing so, however, since the files were not identical in layout. These problems were overcome, though, and all data were restored and given a common format. From the restored files, three new files were constructed. The first file contained data only for those students who had participated in the program in years 1 and 2. A second file contained data for those who had participated in the second and third years. The third file contained all students who had participated throughout the three year period.

In the second year of the program's operation, slightly fewer students were serviced in each of the previously described groups. Overall, 254 students out of the 1226 present in the first year had continued in the program in year 2. Thus, about 21% of the students present in the first year were also present in the second year.

Of the 1107 students who participated in the second year of the program's operation, 163 continued in the third year, or about 15%. Ideally, a group of students of sufficient size to allow meaningful analyses would have been present across the three years of the program's operation. Unfortunately, only 52 cases were found. As a result, analyses had to be carried out in two phases: for years 1 and 2, and for years 2 and 3.

The percentage of students who continued in the first two years, the last two years, and across all three years of the program's operation was disappointing. However, the results do serve to show the extent to which changes in the program had occurred in its second year and to some extent in its third year. These changes were unavoidable for a variety of reasons. Regretably, they required that several sites (and the students serviced at those sites) had to be removed and were, therefore, lost as far as any longitudinal analysis was concerned. But there were other reasons for the low percentage of continuing students. Students serviced in any Title I program enter and leave it depending on factors such as student need for program services, available funding and parental transience. Given these factors, plus the program changes, the number of students who continued in the second and third years of the program's operation is not surprising.

DATA ANALYZED

Several measurements were gathered for each student who participated in the program. Principal evidence concerning attainment of the program's prime objective was obtained using two scales from the _Metropolitan Achievement Tests (Metro 78) Survey Component, Basic Battery_. The scales employed were those in Reading and Mathematics. Appropriate forms and levels of the _Metro 78_ were used in testing all students, and pretest and post test sessions were conducted in compliance with the norm dates. These data constituted the measurements for the longitudinal analyses.

The CAI management system also recorded information concerning the progress of students who interacted with the system. Those data might have been of use in the longitudinal analysis except that the scales used in each year have changed in response to efforts to improve the CAI system. Therefore, the management information could not be used as part of a longitudinal analysis.

For each student, raw scores and scaled scores were obtained using the _Metro 78_. The scaled scores were, in turn, converted first to percentile ranks and then to normal curve equivalents (NCE's). As a consequence of using NCE scores in all analyses, any combination of grade levels within the same subject area could legitimately be analyzed as a unit. This fact was useful in that the N's within grade levels and treatments have been subject to fluctuations from year to year making between grade level comparisons difficult, in many cases.

DESIGN FOR LONGITUDINAL ANALYSES

If the CAI treatment were actually effective relative to the conventional approach, then some predictions could be made about what ought to occur over time. In comparing results from years 1 and 2 for reading, four combinations of treatments are possible and are depicted in Figure 1 (of course, the same idea may be applied to students in mathematics).

Of the four groups, the most consistent and highest gains should be made by those who experienced the CAI treatment in both years (group RCC). Those persons who were not exposed to CAI in either year should show the least gain over the two year period. The other two groups, RNC and RCN should show patterns of achievement which are intermediate between RCC and RNN.

All raw scores have been converted to normal curve equivalent scores (NCE's). Because of this, students at various grade levels may legitimately be combined for analyses. Each person's NCE score, pretest or post test, would show that person's standing relative to his or her appropriate norming group. Furthermore, NCE scores have interval level properties and are normally distributed in the population at large which allows them to be used freely in a wide variety of analytical techniques.

FIGURE 1

Possible Combinations of Treatments For Students Who Participated In Years 1 and 2 For Reading

		1981	
		CAI(C)	NON-CAI(N)
1980	CAI(C)	RCC	RCN
	NON-CAI(N)	RNC	RNN

If random assignment of subjects to treatment groups had been accomplished in both 1980 and 1981, and if the CAI treatment had been truly superior to the conventional approach, then the RCC and RNN groups would have begun the two year period at about the same NCE level (expressed as a mean for each group). Both groups would be considerably below average at the outset, as their members had been selected in compliance with Title I guidelines. As year one progressed, the impact of the CAI treatment would have been shown in that the two groups would be significantly different at post test time whereas they had not been significantly different at pretest time. Put another way, the CAI students should have made greater NCE gains than the Non-CAI students across each measuring period.

This type of argument may be extended to a similar analysis of the data from year two (1980-1981). The expectations would be the same as previously described for year 1 except that the RCC group would begin year 2 considerably ahead of its RNN counterparts. Over the course of the program year, the RCC group should show roughly the same gains in NCE scores as was characteristic of the previous year relative to the Non-CAI group. The design for years 1, 2 and 3 simply extended the analytical approach just described.

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A Problem in Design Implementation

When the longitudinal analysis was proposed, it was recognized that a special problem might be present in the data for years 1, 2 and 3. Title I guidelines require that each student be evaluated annually to determine his or her eligibility to receive Title I services. Let us assume that the CAI treatment within a given program year was clearly superior to the conventional approach (as was generally the case in each of the annual evaluations). Given this, it is likely that some students would no longer qualify for Title I services at the end of that program year since their deficits would have been compensated for as reflected in "average" as against "below average" performance on standardized tests at the end of the program year. Indeed, the success of CAI would cause more of the successful CAI students to be removed from the program, due to their success, than would be true for Non-CAI students.

To the extent the foregoing is true, then the design originally proposed for longitudinal analysis may yield conflicting and misleading results. Attrition should be highest in the RCC group assuming that CAI was, indeed, an effective adjunct to conventional Title I instruction. If the RNN treatment is actually less effective than the RCC treatment, differential loss of subjects to treatments (mortality) would serve to undermine the confidence one might place in the reported results. That is, whatever effect the RCC treatment had would be blunted in the data analyzed as those students who had gained most while in that treatment would be disqualified for further Title I services. As will be seen, the results obtained in the longitudinal analyses were conflicting and suggested that the original design was probably not the most appropriate one for making judgements concerning the long-term effectiveness of CAI.

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RESULTS OF THE LONGITUDINAL ANALYSES

Three Year Analyses

Attempts at assembling a continuing group of students who had been participants in the program throughout its three year period were not very successful. Only 52 students were found. Of these, only about 30 had pre and post test scores which would allow them to be included in the analyses for reading. In mathematics, there were even fewer students. After these small groups were broken down into the various combinations of treatments, comparisons often were based upon only 3 or 4 students in each group. Such comparisons could not possibly have been meaningful. Therefore, the three year data set, and its proposed analyses, were abandoned.

Two Year Analyses

Attention then turned to the two data sets which had been assembled from students who had continued in the program in years 1 and 2 (group "12"), and/or in years 2 and 3 (group "23"), but not necessarily in all three years. For group 12, 254 students were found. For group 23, 163 students were found. In each two year comparison, four possible treatment groups existed: 1) CAI in both years (CC); 2) Non-CAI in both years (NN); 3) CAI in the first

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year, but not in the second (CN); and, 4) No CAI in the first year, but CAI in the second year (NC). The N's in each of these groups for reading and for mathematics are given for the 12 and 23 data sets in Tables 1 and 2. However, some of the records contained in the combined files were first graders in the regular Title I program who were not part of the CAI project. As a result, the N's reported in Tables 1 and 2 are somewhat lower than those just reported.

Even when broken down by grade level, the N's in both data sets were large enough that analyses could be undertaken with a reasonable chance of obtaining meaningful results. Therefore, analysis was undertaken. Figure 2 shows the comparisons which were made in each of the data sets. Since the data sets each spanned a two year period, four measuring points were available. For the 12 data set the points are referred to as Pre1, Post1, Pre2, and Post2. For the 23 data set, the measuring points are Pre2, Post2, Pre3 and Post3. Note that both data sets include a common measuring point: Pre2.

Data Analyzed

All analyses herein described involved the use of Normal Curve Equivalent scores (NCE's). At every measuring point, each student's raw score on the *Metropolitan Achievement Tests (Metro 78)* was converted to the

TABLE 1

Number of Students Receiving Each Reading Treatment Combination in the Year 1-Year 2 and Year 2-Year 3 Longitudinal Files

		Year 2		
		CAI	Non-CAI	Totals
Year 1	CAI	63	7	70
	Non-CAI	9	57	65
	Totals	72	63	135

		Year 3		
		CAI	Non-CAI	Totals
ear 2	CAI	40	9	49
	Non-CAI	5	42	47
	Totals	45	51	96

TABLE 2

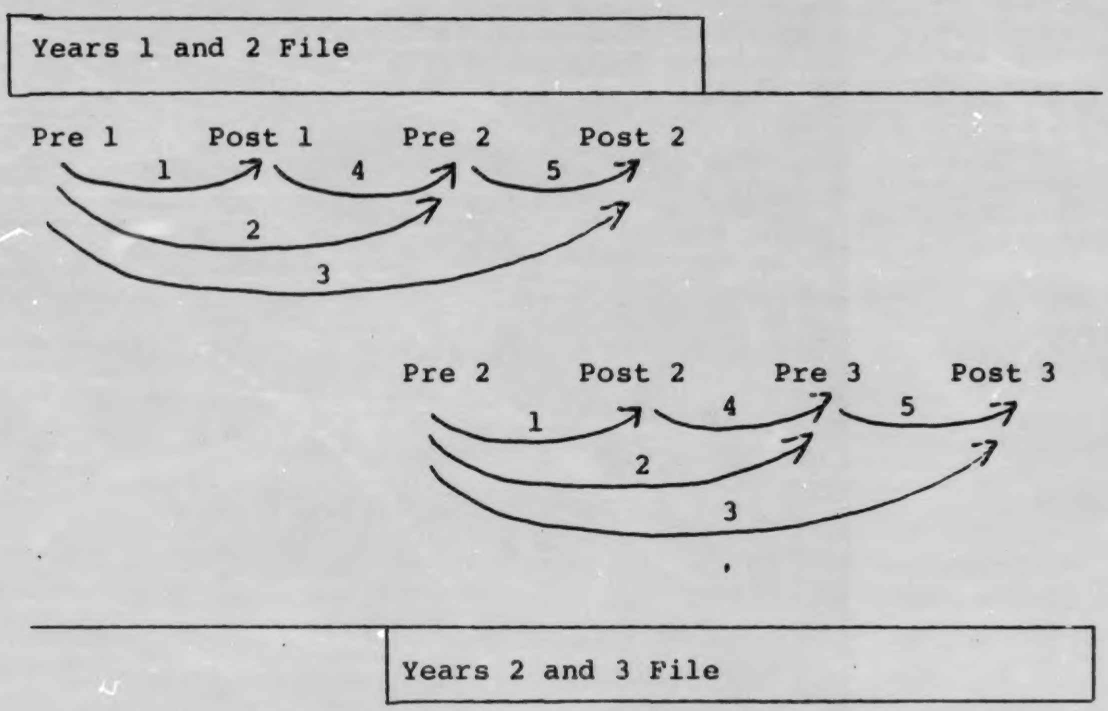
Number of Students Receiving Each Mathematics Treatment Combination in the Year 1-Year 2 and Year 2-Year 3 Longitudinal Files

		Year 2		
		CAI	Non-CAI	Totals
Year 1	CAI	26	3	29
	Non-CAI	4	47	51
	Totals	30	50	80

		Year 3		
		CAI	Non-CAI	Totals
Year 2	CAI	26	7	33
	Non-CAI	0	15	15
	Totals	26	22	48

FIGURE 2

Illustration of the 5 NCE gains analyzed for the years 1-2 and years 2-3 longitudinal data sets


Years 1 and 2 File
Pre 1
Post 1
Pre 2
Post 2
1
4
5
2
3
Pre 2
Post 2
Pre 3
Post 3
1
4
5
2
3
Years 2 and 3 File

corresponding scaled score. The scaled score was then converted into a percentile rank. Finally, the percentile rank was converted to its corresponding NCE score. All conversions were performed by table lookup procedures using a computer to minimize human recording and conversion errors. Only the NCE scores were used for statistical analyses since they alone allow near complete flexibility in assembling groups for analysis.

Figure 2 shows the five comparisons of interest in each of the two year data sets. For comparisons 1, 2 and 3, the first measurement obtained for students in the data set was used as the base from which NCE gains to the appropriate post test criterion were measured. This was done in order 1) that the longer term effects of being exposed to CAI could be measured, 2) that possible trends could be observed for each treatment group and, 3) that comparisons could be made among the several treatment groups. Comparison 4 reflects the differential gains or losses made by students in each treatment group over the summer vacation period. Comparison 5 shows that the gains made by students in the second of the two years represented in each data set.

Given the presumed effectiveness of CAI relative to conventional approaches to Title I instruction, it was reasonable to assume that the greatest gains in either data set (12 or 23) would be made by students in the CC group. Further, one would expect that the difference in gains made by members of the CC group might increase at each measuring

TABLE 3

Summary of Results in Reading for the Five Gains Analyzed for the Year 1-2 and Year 2-3 Longitudinal Data Sets

	CAI group Gain or Loss	Treatment		Grade		Interaction		
		F	P	F	P	F	P	Total
1	+ 1.39	.266	.608	.618	.605	.438	.727	81
2	- 7.26	5.926	.017	1.266	.292	.240	.868	81
3	+ 4.05	1.857	.177	.787	.505	.579	.631	80
4	- 7.86	9.875	.002	1.556	.208	.427	.734	79
5	+11.56	15.220	.001	2.090	.109	1.369	.259	80
				Years 2 and 3 Data Set				
1	+ 2.80	1.175	.282	1.818	.153	.869	.462	72
2	+ 2.55	1.003	.320	.437	.727	.321	.810	73
3	+ 6.59	4.929	.030	1.638	.190	.058	.982	69
4	- .29	.012	.915	1.636	.190	.553	.648	72
5	+ 4.28	2.868	.095	3.619	.018	.084	.969	69

TABLE 4

Summary of Results in Mathematics for the Five Gains Analyzed for the Year 1-2 and Year 2-3 Longitudinal Data Sets

	CAI group Gain or Loss	Treatment		Grade		Interaction		Total
		F	P	F	P	F	P	
1	- 1.06	.052	.820	3.819	.009	.024	.999	60
2	+ 4.48	1.472	.230	5.068	.001	1.051	.389	68
3	+ 2.29	.593	.445	4.230	.005	.724	.579	65
4	+ 6.09	1.480	.230	3.193	.021	.921	.459	59
5	- 2.36	.483	.490	2.390	.062	1.448	.231	64

Years 2 and 3 Data Set

	CAI group Gain or Loss	Treatment F	Treatment P	Grade F	Grade P	Interaction F	Interaction P	Total
1	- 4.36	1.145	.294	3.203	.028	.343	.847	37
2	-15.52	14.647	.001	1.742	.170	.708	.593	37
3	- 7.98	3.356	.082	1.074	.396	.234	.916	30
4	-11.49	12.639	.001	3.122	.030	.625	.649	38
5	+ 5.3	1.595	.221	1.274	.312	.680	.613	31

point in the data set resulting in the CC and NN groups diverging over time with the CC group ending up considerably ahead of the NN group at the end of the two year period represented by each data set.

Representativeness of the Two Year Data Sets

Before attempting to interpret the findings in the 12 and 23 data sets, a prior question needed to be answered: are the students who were included in either or both of the data sets representative of all students who participated in the project in each year of its operation? There is some evidence which indicates that the 12 and 23 data sets were not representative of the three years of program operation. To the extent that this is true, results of their analyses become much less useful.

Undertaking any longitudinal analysis of the project data assumes that the project has remained essentially unchanged throughout the three year period. In many respects, this has not been the case. The sites used for CAI and for comparison students have not been constant over the years for a variety of quite legitimate reasons. The CAI curriculum supplied by Computer Curriculum Corporation has evolved each year in an effort to make it more flexible, useful and effective. Emphases given different grade levels and curriculum areas were changed considerably between years 1 and 2 based upon experiences gained in the project's first year. In fact, though much of the project's intent and methods has remained the same in each year, it is probably most sensible to regard each year of operation as being a separate entity rather than a replication of previous years. For this reason, the data obtained in each of the three years of the project's operation were reanalyzed using the same analytical approach. Results of these reanalyses are presented following those for the longitudinal data sets.

Analyses of Variance for Longitudinal Data

In each of the two longitudinal data sets, five two-way analyses of variance were performed on NCE gains. Each of the five gain scores analyzed represented a different part of the gains made by students in the data set. Of particular interest are gains 1, 5 and 3 which show progress in the first of the two years, the second of the two years, and across the two year period, respectively. Tables 5 and 6 summarize the results of the five analyses for the 12 and 23 data sets in reading and in mathematics. Complete results for these analyses are given in Appendix A. Only grade levels for which both CAI and Non-CAI students existed were included in these analyses in order to ensure proper comparisons at each level. For reading, grades 3 through 6 qualified and in mathematics, grades 2 through 6 qualified.

TABLE 5

Two-Way Analysis of Variance of Mean NCE Gains By Treatment and Grade Level for Year 1 Students in Reading

```
* * * * * * * * * * * * * * *   C E L L   M E A N S   * * * * * * * * * * * * * * *
              RGAIN     READING NCE GAIN
           BY RGP       READING GROUP
              V3        GRADE LEVEL 80
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


TOTAL POPULATION

      5.69
 (     710)


RGP
         1           2

      5.35        5.96
 (     316)  (     394)


V3
         2           3           4           5           6           7           8           9          10          11          12

      6.81        9.32        3.91        4.91        9.70       -1.19         0.0        5.30        5.93        4.76        5.13
 (      72)  (     100)  (     105)  (     107)  (      52)  (      45)  (       0)  (     122)  (      57)  (      30)  (      20)



            V3
                     2           3           4           5           6           7           8           9          10          11          12
RGP
         1        5.39        7.74        4.33        4.35        9.29        2.17         0.0        1.97        6.78        2.36        5.19
            (      13)  (      60)  (      49)  (      33)  (      38)  (      12)  (       0)  (      47)  (      34)  (      21)  (       9)

         2        7.13       11.69        3.54        5.16       10.80       -2.42         0.0        7.39        4.66       10.38        5.09
            (      59)  (      40)  (      56)  (      74)  (      14)  (      33)  (       0)  (      75)  (      23)  (       9)  (      11)
```

TABLE 5

(continued)

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
         RGAIN     READING NCE GAIN
      BY RGP       READING GROUP
         V3        GRADE LEVEL 80
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                    SUM OF                   MEAN             SIGNIF
SOURCE OF VARIATION                SQUARES       DF        SQUARE        F     OF F

MAIN EFFECTS                      5268.957       10       526.896    3.476    0.000
   RGP                             442.459        1       442.459    2.919    0.088
   V3                             5202.008        9       578.001    3.813    0.000

2-WAY INTERACTIONS                1516.406        9       168.490    1.112    0.352
   RGP        V3                  1516.405        9       168.489    1.112    0.352

EXPLAINED                         6785.375       19       357.125    2.356    0.001

RESIDUAL                        104590.250      690       151.580

TOTAL                           111375.625      709       157.088


   1226 CASES WERE PROCESSED.
    516 CASES ( 42.1 PCT) WERE MISSING.
```

TABLE 5

(continued)

```
* * *   M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S   *
                 RGAIN    READING NCE GAIN
          BY     RGP      READING GROUP
                 V3       GRADE LEVEL 80
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

GRAND MEAN =       5.69
                                                            ADJUSTED FOR
                                              UNADJUSTED    INDEPENDENTS
VARIABLE + CATEGORY                  N        DEV'N  ETA    DEV'N    BETA

RGP
    1 CAI YR 1                     316        -0.34         -0.93
    2 NON-CAI YR 1                 394         0.28          0.75
                                                     0.02            0.07

V3
    2 GRADE TWO                     72         1.12          0.68
    3 GRADE THREE                  100         3.63          3.89
    4 GRADE FOUR                   105        -1.78         -1.74
    5 GRADE FIVE                   107        -0.78         -1.01
    6 GRADE SIX                     52         4.01          4.49
    7 GRADE SEVEN                   45        -6.88         -7.18
    9 GRADE EIGHT AND NINE         122        -0.39         -0.49
   10 GRADE TEN                     57         0.24          0.49
   11 GRADE ELEVEN                  30        -0.93         -0.50
   12 GRADE TWELVE                  20        -0.55         -0.55
                                                     0.21            0.22

MULTIPLE R SQUARED                                                  0.047
MULTIPLE R                                                          0.218
```

TABLE 6

Two-Way Analysis of Variance of Mean NCE Gains By Treatment and Grade Level for Year 1 Students in Mathematics

```
* * * * * * * * * * * * * * *   C E L L   M E A N S   * * * * * * * * * * * * * *
               MGAIN     MATH NCE GAIN
            BY MGP       MATH GROUP
               V3        GRADE LEVEL 80
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


TOTAL POPULATION

     11.29
 (     504)


MGP
         1         2

     13.32      9.75
 (     218) (     286)


V3
         1         2         3         4         5         6         7         8         9

     22.47     22.18     15.18      5.10      9.00      8.33       0.0       0.0      4.80
 (     62) (     48) (     83) (     48) (     59) (     62) (      0) (      0) (    142)


          V3
                   1         2         3         4         5         6         7         8         9
MGP
         1     22.90     22.15     15.62      7.81      9.74     12.54       0.0       0.0      8.33
           (     23) (     24) (     45) (     21) (     41) (     11) (      0) (      0) (     53)

         2     22.21     22.20     14.65      3.00      7.33      7.43       0.0       0.0      2.70
           (     39) (     24) (     38) (     27) (     18) (     51) (      0) (      0) (     89)
```

TABLE 6

(continued)

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
           MGAIN    MATH NCE GAIN
        BY MGP      MATH GROUP
           V3       GRADE LEVEL 80
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                        SUM OF                     MEAN              SIGNIF
SOURCE OF VARIATION                    SQUARES       DF          SQUARE         F     OF F

MAIN EFFECTS                         24429.980        7 [illegible]89.997   20.858    0.000
   MGP                                1074.099        1        1074.099    6.419    0.012
   V3                                22851.387        6        3808.564   22.762    0.000

2-WAY INTERACTIONS                     586.215        6          97.702    0.584    0.743
   MGP        V3                       586.213        6          97.702    0.584    0.743

EXPLAINED                            25016.250       13        1924.327   11.501    0.000

RESIDUAL                             81987.375      490         167.321

TOTAL                               107003.625      503         212.731


   1226 CASES WERE PROCESSED.
    722 CASES ( 58.9 PCT) WERE MISSING.
```

TABLE 6

(continued)

```
* * *   M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S   * * *
          MGAIN    MATH NCE GAIN
       BY MGP      MATH GROUP
          V3       GRADE LEVEL 80
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

GRAND MEAN =     11.29
                                                         ADJUSTED FOR
                                            UNADJUSTED   INDEPENDENTS
VARIABLE + CATEGORY                  N      DEV'N  ETA   DEV'N   BETA

MGP
    1 CAI YR 1                     218       2.03         1.74
    2 NON-CAI YR 1                 286      -1.55        -1.33
                                                   0.12          0.10

V3
    1 GRADE ONE                     62      11.17        11.36
    2 GRADE TWO                     48      10.88        10.68
    3 GRADE THREE                   83       3.88         3.55
    4 GRADE FOUR                    48      -6.19        -6.20
    5 GRADE FIVE                    59      -2.29        -3.10
    6 GRADE SIX                     62      -2.96        -2.18
    9 GRADE SEVEN - ELEVEN         142      -6.49        -6.31
                                                   0.47          0.46

MULTIPLE R SQUARED                                               0.228
MULTIPLE R                                                       0.478
```

The two main effects analyzed in each instance were treatment group, i.e., CAI or Non-CAI, and grade level. Only two treatment groups were analyzed out of the possible four. Students who were in the CAI group in one year but not in the other year were not able to be analyzed as their numbers were quite uneven, generally very small and occasionally non-existent. Indeed, it should be pointed out that the N's for all treatment groups generally were rather small and very likely are not representative of their parent populations.

The longitudinal results for reading appear to bear out what was observed in each year of the program's operation. In the 12 data set, gain 1 was not significant, but favored the CAI group. Gain 5 was highly significant and favored the CAI group. Thus, in both years results observed in the 12 data set correspond with those observed in the parent data sets for years 1 and 2 of the program.

Gain 3 represents the relative gains made by students over the two year period. In the 12 data set, gain 3 for reading was not significant but favored the CAI treatment and approached significance. Had gain 1 been significant, gain 3 might have been as well.

Thus, in the first two-year comparison, the CAI treatment was generally superior to the Non-CAI treatment for reading with the most marked gains being made in the second year. In none of the five analyses was grade level statistically significant, nor were any of the treatment by grade level interactions.

In the 23 data set, gain 1 favored the CAI treatment for reading but was not significant. Gain 5 was nearly significant and again favored the CAI treatment in reading. The relative gains made by students across the two year period is represented by gain 3. In the 23 data set gain 3 was significant and favored the CAI treatment in reading. Other comparisons within the 23 data set were not significant with the exception of grade level in gain 5.

For students in the reading program in each of the two year periods, it seems relatively safe to conclude that the CAI treatment was more effective on a longitudinal basis than was the Non-CAI treatment, though the results are not compelling. It is also of interest to note the gain 4 results which show the relative gains or losses over the summer break in both of the two year periods. In the 12 data set the CAI students lost more ground over the summer than did Non-CAI students. The corresponding gain in the 23 data set was slightly in favor of the Non-CAI students as well, but was not significant. This may be a finding of importance, but the shakey representativeness of the two data sets and their rather small N's suggest caution in interpreting the finding.

The results of analyzing gains made in mathematics in the 12 and 23 data sets were disappointing in that the N's which resulted were small. In the 12 data set, no treatment comparison yielded statistically significant results. Grade level was nearly always significant which corresponds with results found in analyzing the parent populations from years 1 and 2 of the program's operation. The N's which resulted for mathematics students in the 23 data set were so small that little meaningful interpretation may safely be invested in them. However, it is intriguing to note that the CAI students in mathematics, as was the case in reading, lost ground relative to the Non-CAI students during the summer break as is reflected in gain 4 results for mathematics.

Since this is one finding that was consistent in both reading and mathematics it may be of importance in spite of the small N's. Because the data from each of the three years suggest that the CAI treatment is superior to the Non-CAI treatment, the potential problem noted earlier may have been present and responsible for the apparent decline of the CAI students over each summer period. That is, the success of the CAI treatment in each year of the program may have caused differential loss of subjects in order to maintain compliance with Title I guidelines. The net effects of this may have been 1) to cause the continuing CAI students to appear to have lost ground relative to their Non-CAI counterparts over the summer periods, and 2) to have caused the apparent gains made by CAI students in other comparisons to have been depressed.

REANALYSES OF EACH PROGRAM YEAR'S DATA

Clearly, attempts at meaningful longitudinal analyses were not very successful for quite legitimate reasons. Given this, and the fact that the program and the students it served in each year were rather different, it seemed that the best way to sum up the apparent effect of CAI in the three years of the project's operation was by separate analyses of the three data sets generated in the three years in which the program had been in operation, apart from whether students continued from year to year.

Data obtained in each of the three project years were subjected to two-way analysis of variance. In each analysis, the dependent variable was the NCE gain score achieved by each student. Independent variables were treatment (CAI or Non-CAI) and grade level. The interaction between treatment and grade level was also of interest, and was tested.

The N's in each of the cells which constituted the treatment by grade level matrix were uneven. However, the analysis employed compensated for such non-orthogonal designs. Also, no data obtained in any year have been eliminated from analyses because they were presumed to have been "outliers", etc. Thus, the results here reported represent all usable cases observed in each of the program years.

In years 1 and 2, some collapsing across grade levels was carried out in order that sufficient N's would be present in the CAI and Non-CAI groups at those grade levels. The collapsing was legitimate and is described in the reports for years 1 and 2. In year 1, grades 8 and 9 were combined in reading and grades 7 through 11 were combined for mathematics. In year 2, grades 10 through 12 were combined for reading.

Results of the analyses performed are summarized under three general headings: the CAI as against Non-CAI treatment; the grade level effect; and, the interaction between treatment and grade level. Tables 5 through 10 present the results of the analyses of variance performed. Descriptive statistics for pretest, post test and gain scores appear in Appendix B. Each of the tables is in three sections. The first section presents N's and mean NCE gain scores for the total group, for each treatment and grade level, and for each treatment by grade level cell in the analysis. The second section gives a complete analysis of variance table. The last section shows how each subgroup in each main effect deviated from the grand mean both initially, and after adjustments had been made for main effects and the interaction.

TABLE 7

Two-Way Analysis of Variance of Mean NCE Gains By Treatment and Grade Level for Year 2 Students in Reading

```
* * * * * * * * * * * * * * * *   C E L L   M E A N S   * * * * * * * * * * * * * * * *
                RGAIN      READING NCE GAIN
             BY RGP        READING GROUP
                W3         GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

TOTAL POPULATION

       4.16
  (    621)


RGP
         1         2

       6.96      1.57
  (    299) ( .  322)


W3
         2         3         4         5         6         7         8         9        10        11

       5.41      3.58      1.25      1.94     10.25     -0.26      1.84     10.14       0.0      6.33
  (    120) (     94) (     87) (     88) (     50) (     55) (     28) (     38) (      0) (     61)


            W3
                   2         3         4         5         6         7         8         9        10        11
RGP
         1     10.27      4.82      4.53      6.79     11.23      0.93      4.91     12.93       0.0      6.10
            (     50) (     38) (     44) (     32) (     43) (     46) (      8) (     25) (      0) (     13)

         2      1.94      2.73     -2.10     -0.83      4.19     -6.32      0.60      4.76       0.0      6.39
            (     70) (     56) (     43) (     56) (      7) (      9) (     20) (     13) (      0) (     48)
```

TABLE 7

(continued)

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
               RGAIN     READING NCE GAIN
            BY RGP       READING GROUP
               W3        GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                         SUM OF                  MEAN              SIGNIF
SOURCE OF VARIATION                     SQUARES      DF        SQUARE          F    OF F

MAIN EFFECTS                          10701.332       9      1189.037      7.410   0.000
   RGP                                 4588.453       1      4588.453     28.594   0.000
   W3                                  6196.512       8       774.564      4.827   0.000

2-WAY INTERACTIONS                     1045.348       8       130.668      0.814   0.590
   RGP       W3                        1045.350       8       130.669      0.814   0.590

EXPLAINED                             11746.688      17       690.981      4.306   0.000

RESIDUAL                              96762.125     603       160.468

TOTAL                                108508.813     620       175.014

   1107 CASES WERE PROCESSED.
    486 CASES ( 43.9 PCT) WERE MISSING.
```

TABLE 7

(continued)

```
* * *   M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S   * *
              RGAIN     READING NCE GAIN
         BY   RGP       READING GROUP
              W3        GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

GRAND MEAN =      4.16
                                                              ADJUSTED FOR
                                                 UNADJUSTED   INDEPENDENTS
VARIABLE + CATEGORY                     N        DEV'N  ETA   DEV'N   BETA

RGP
    1 CAI YR 2                         299        2.80         3.06
    2 NON-CAI YR 2                     322       -2.60        -2.84
                                                        0.20          0.22

W3
    2 GRADE TWO                        120        1.25         1.63
    3 GRADE THREE                       94       -0.59        -0.13
    4 GRADE FOUR                        87       -2.91        -3.06
    5 GRADE FIVE                        88       -2.23        -1.53
    6 GRADE SIX                         50        6.08         3.85
    7 GRADE SEVEN                       55       -4.42        -6.52
    8 GRADE EIGHT                       28       -2.33        -1.17
    9 GRADE NINE                        38        5.97         4.93
   11 GRADE TEN - TWELVE                61        2.17         3.75
                                                        0.24          0.24

MULTIPLE R SQUARED                                                    0.099
MULTIPLE R                                                            0.314
```

TABLE 8

Two-Way Analysis of Variance of Mean NCE Gains By Treatment and Grade Level for Year 2 Students in Mathematics

```
* * * * * * * * * * * * * * *  C E L L   M E A N S  * * * * * * * * * * * *
             MGAIN      MATH NCE GAIN
          BY MGP        MATH GROUP
             W3         GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


TOTAL POPULATION

     6.97
(    353)


MGP
        1          2

     7.80       6.34
(    151) (     202)


W3
        1          2          3          4          5          6

    13.04      11.11       5.52       4.65       3.06       4.44
(     54) (      67) (      61) (      77) (      74) (      20)



           W3
                   1          2          3          4          5          6
MGP
        1      21.47      15.73       6.13       4.52       3.29       2.55
           (      15) (      24) (      26) (      37) (      35) (      14)

        2       9.79       8.54       5.07       4.77       2.86       8.83
           (      39) (      43) (      35) (      40) (      39) (       6)
```

TABLE 8

(continued)

```
* * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * *
                   MGAIN     MATH NCE GAIN
                BY MGP       MATH GROUP
                   W3        GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                              SUM OF                     MEAN              SIGNIF
SOURCE OF VARIATION                          SQUARES       DF          SQUARE        F       OF F

MAIN EFFECTS                                5574.809        6         929.135    4.120      0.001
   MGP                                       637.444        1         637.444    2.826      0.094
   W3                                       5392.680        5        1078.536    4.782      0.000

2-WAY INTERACTIONS                          1824.484        5         364.897    1.618      0.155
   MGP       W3                             1824.484        5         364.897    1.618      0.155

EXPLAINED                                   7399.313       11         672.665    2.983      0.001

RESIDUAL                                   76907.500      341         225.535

TOTAL                                      84306.813      352         239.508


   1107 CASES WERE PROCESSED.
    754 CASES ( 68.1 PCT) WERE MISSING.
```

TABLE 9

Two-Way Analysis of Variance of Mean NCE Gains By Treatment and Grade Level for Year 3 Students in Reading

```
* * * * * * * * * * * * * * *  C E L L   M E A N S  * * * * * * *
                 RGAIN       READING NCE GAIN
              BY RGP         READING GROUP
                 X3          GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


TOTAL POPULATION

     5.27
 (   308)


RGP
        1          2

     6.65       3.56
 (   170) (     138)


X3
        2          3          4          5          6

     6.34       5.92       2.48       5.02       7.01
 (    60) (      58) (      64) (      72) (      54)



           X3
                    2          3          4          5          6
RGP
        1        8.50       7.42       5.08       4.66       8.24
            (     26) (      35) (      33) (      40) (      36)

        2        4.69       3.63      -0.29       5.47       4.56
            (     34) (      23) (      31) (      32) (      18)
```

TABLE 9

(continued)

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
               RGAIN     READING NCE GAIN
            BY RGP       READING GROUP
               X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                    MEAN              SIGNIF
SOURCE OF VARIATION                      SQUARES      DF           SQUARE        F     OF F

MAIN EFFECTS                            1437.717       5          287.543    2.867    0.015
   RGP                                   676.411       1          676.411    6.743    0.010
   X3                                    707.510       4          176.878    1.763    0.136

2-WAY INTERACTIONS                       371.533       4           92.883    0.926    0.449
   RGP        X3                         371.533       4           92.883    0.926    0.449

EXPLAINED                               1809.250       9          201.028    2.004    0.039

RESIDUAL                               29891.695     298          100.308

TOTAL                                  31700.945     307          103.260


    590 CASES WERE PROCESSED.
    282 CASES ( 47.8 PCT) WERE MISSING.
```

TABLE 10

Two-Way Analysis of Variance of Mean NCE Gains By Treatment and Grade Level for Year 3 Students in Mathematics

```
* * * * * * * * * * * * * *  C E L L   M E A N S  * * * * * * * * * * *
              MGAIN     MATH NCE GAIN
           BY MGP       MATH GROUP
              X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


TOTAL POPULATION

     10.94
 (    172)


MGP
         1          2

     13.02       9.36
 (     74) (      98)


X3
         1          2          3          4          5          6

     10.40      19.47      12.62       6.87      11.15       3.31
 (     16) (     29) (     28) (     37) (     43) (     19)



          X3
                    1          2          3          4          5          6
MGP
         1       8.70      28.34       8.67      10.85      11.90       4.23
             (      4) (     13) (      8) (     15) (     24) (     10)

         2      10.97      12.26      14.19       4.16      10.21       2.29
             (     12) (     16) (     20) (     22) (     19) (      9)
```

TABLE 10

(continued)

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
              MGAIN     MATH NCE GAIN
           BY MGP       MATH GROUP
              X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                     SUM OF                      MEAN                SIGNIF
SOURCE OF VARIATION                 SQUARES        DF           SQUARE          F     OF F

MAIN EFFECTS                       4582.270         6          763.711      4.716    0.000
   MGP                              668.513         1          668.513      4.128    0.044
   X3                              4019.493         5          803.898      4.964    0.000

2-WAY INTERACTIONS                 1821.902         5          364.380      2.250    0.052
   MGP        X3                   1821.903         5          364.380      2.250    0.052

EXPLAINED                          6404.172        11          582.197      3.595    0.000

RESIDUAL                          25911.691       160          161.948

TOTAL                             32315.863       171          188.982

     590 CASES WERE PROCESSED.
     418 CASES ( 70.8 PCT) WERE MISSING.
```

TABLE 10

(continued)

```
* * *   M U L T I P L E   C L A S S I F I C A T I O N   A N A L Y S I S   * *
             MGAIN     MATH NCE GAIN
        BY   MGP       MATH GROUP
             X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

GRAND MEAN =     10.94
                                                        ADJUSTED FOR
                                           UNADJUSTED   INDEPENDENTS
VARIABLE + CATEGORY                N       DEV'N  ETA   DEV'N   BETA

MGP
    1 CAI YR 3                    74        2.08         2.33
    2 NON-CAI YR 3                98       -1.57        -1.76
                                                  0.13          0.15

X3
    1 GRADE ONE                   16       -0.54         0.20
    2 GRADE TWO                   29        8.53         8.46
    3 GRADE THREE                 28        1.66         2.27
    4 GRADE FOUR                  37       -4.07        -3.96
    5 GRADE FIVE                  43        0.22        -0.30
    6 GRADE SIX                   19       -7.63        -8.02
                                                  0.35          0.35

MULTIPLE R SQUARED                                             0.142
MULTIPLE R                                                     0.377
```

CAI vs. Non-CAI as a Main Effect

In year 1 the treatment effect was not significant for students in reading (p=.088), but was significant (p=.012) for students in mathematics. The difference observed for mathematics favored the CAI treatment. In the second year, the CAI group made significantly greater gains than did the Non-CAI group in reading (p<.001) and nearly did so in mathematics (p=.090). The "near" significant results with respect to mathematics appeared to be due to the performance of students in one grade level: grade 6. Sixth graders in year 2 showed a significant difference which favored the Non-CAI approach. On the assumption that the observed grade 6 results were not representative of the rest of the data set for year 2, a separate analysis was conducted excluding students in grade 6. The results were very close to being significant (p=.061).

In the third year of the project, significant differences were observed in gain scores which favored the CAI treatment for both reading (p=.010) and mathematics (p=.044).

Grade Level as a Main Effect

Grade level was a second independent variable used in all analyses. With regard to reading, grade level was significant in years 1 and 2, but no pattern appeared to be present with regard to differential gains as a function of grade level. In year 3, no grade level effect was observed.

Grade level comparisons presented a different pattern for students in mathematics. For all three years, grade level was a statistically significant main effect. Moreover, in each of the three years the greatest gains in mathematics were made at the lowest grade levels and the least gains at the highest grade levels.

Interactions Between Main Effects

The interactions between treatment and grade level were tested in each of the three years. None was statistically significant, though the interactions for mathematics in years 2 and 3 were close to being significant.

From all this it is reasonable to conclude that for reading the treatment effect was uniform, favored the CAI treatment and was independent of grade level throughout the three years of the project. The results for mathematics are more complex. Apparently Title I becomes less effective in terms of NCE gains produced as grade level increases. However, the CAI treatment in mathematics became more effective as grade level increased.

Implications

The CAI reading system should continue to be implemented at all grade levels. The effectiveness of Title I instruction will differ by grade level from year to year but will probably not be a function of grade level and CAI. Rather, any differences in reading will most likely be a result of the implementation of the program at a particular participating school.

The CAI mathematics system should continue to be implemented. However, users should be aware of the following likely outcomes. They should expect a decline generally in the effectiveness of mathematics Title I programs as grade level increases. At the same time, however, they should expect the CAI mathematics treatment to become more effective relative to the Non-CAI treatment as grade level increases.

At the most general level, the CAI program in both reading and mathematics should be continued in the schools where they are currently implemented and should be promoted elsewhere as useful additions/extensions to existing Title I programs.

APPENDIX A

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TABLE A1
Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 1 - Year 2 Longitudinal File
GAIN 1

```
* * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * *
           RG1        READING GAIN PRE YR1 TO POST YR1
        BY RGP        READING TREATMENT GROUP
           W3         GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                           SUM OF                      MEAN              SIGNIF
SOURCE OF VARIATION                       SQUARES       DF           SQUARE        F      OF F

MAIN EFFECTS                              253.766        4           63.442    0.509     0.729
   RGP                                     33.139        1           33.139    0.266     0.608
   W3                                     231.380        3           77.127    0.618     0.605

2-WAY INTERACTIONS                        163.673        3           54.558    0.438     0.727
   RGP       W3                           163.673        3           54.558    0.438     0.727

EXPLAINED                                 417.441        7           59.634    0.478     0.847

RESIDUAL                                 9103.250       73          124.702

TOTAL                                    9520.691       80          119.009


    254 CASES WERE PROCESSED.
    173 CASES ( 68.1 PCT) WERE MISSING.
```

TABLE A2

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 1 - Year 2 Longitudinal File

GAIN 2

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
          RG2      READING GAIN PRE YR1 TO PRE YR2
       BY RGP      READING TREATMENT GROUP
          W3       GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                      SUM OF                   MEAN         SIGNIF
SOURCE OF VARIATION                  SQUARES      DF          SQUARE      F    OF F

MAIN EFFECTS                        1620.969       4         405.242  2.566  0.045
   RGP                               936.016       1         936.016  5.926  0.017
   W3                                600.113       3         200.038  1.266  0.292

2-WAY INTERACTIONS                   113.838       3          37.946  0.240  0.868
   RGP      W3                       113.838       3          37.946  0.240  0.868

EXPLAINED                           1734.809       7         247.830  1.569  0.158

RESIDUAL                           11530.035      73         157.946

TOTAL                              13264.844      80         165.811


    254 CASES WERE PROCESSED.
    173 CASES ( 68.1 PCT) WERE MISSING.
```

TABLE A3

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 1 - Year 2 Longitudinal File

GAIN 3

```
* * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * *
                 RG3      READING GAIN PRE YR1 TO POST YR2
              BY RGP      READING TREATMENT GROUP
                 W3       GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                  MEAN               SIGNIF
SOURCE OF VARIATION                      SQUARES      DF         SQUARE        F       OF F

MAIN EFFECTS                             605.012       4        151.253    0.993    0.417
   RGP                                   282.920       1        282.920    1.857    0.177
   W3                                    359.710       3        119.903    0.787    0.505

2-WAY INTERACTIONS                       264.748       3         88.249    0.579    0.631
   RGP      W3                           264.748       3         88.249    0.579    0.631

EXPLAINED                                869.762       7        124.252    0.815    0.577

RESIDUAL                               10970.582      72        152.369

TOTAL                                  11840.344      79        149.878


    254 CASES WERE PROCESSED.
    174 CASES ( 68.5 PCT) WERE MISSING.
```

TABLE A4

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 1 - Year 2 Longitudinal File

GAIN 4

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
         RG4      READING GAIN OVER SUMMER
      BY RGP      READING TREATMENT GROUP
         W3       GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                        SUM OF                    MEAN              SIGNIF
SOURCE OF VARIATION                    SQUARES       DF          SQUARE        F      OF F

MAIN EFFECTS                          1685.373        4         421.343    4.019     0.005
   RGP                                1035.261        1        1035.261    9.875     0.002
   W3                                  489.325        3         163.108    1.556     0.208

2-WAY INTERACTIONS                     134.384        3          44.795    0.427     0.734
   RGP        W3                       134.384        3          44.795    0.427     0.734

EXPLAINED                             1819.758        7         259.965    2.480     0.025

RESIDUAL                              7443.414       71         104.837

TOTAL                                 9263.172       78         118.759

    254 CASES WERE PROCESSED.
    175 CASES ( 68.9 PCT) WERE MISSING.
```

TABLE A5

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 1 - Year 2 Longitudinal File

GAIN 5

```
* * * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * * * *
        RG5       READING GAIN PRE YR2 TO POST YR2
     BY RGP       READING TREATMENT GROUP
        W3        GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                        MEAN              SIGNIF
SOURCE OF VARIATION                      SQUARES        DF            SQUARE         F      OF F

MAIN EFFECTS                            3215.696         4           803.924     5.321     0.001
   RGP                                  2299.257         1          2299.257    15.220     0.000
   W3                                    947.072         3           315.690     2.090     0.109

2-WAY INTERACTIONS                       620.667         3           206.889     1.369     0.259
   RGP       W3                          620.667         3           206.889     1.369     0.259

EXPLAINED                               3836.363         7           548.052     3.628     0.002

RESIDUAL                               10877.211        72           151.072

TOTAL                                  14713.574        79           186.248


    254 CASES WERE PROCESSED.
    174 CASES ( 68.5 PCT) WERE MISSING.
```

TABLE A6

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 1 - Year 2 Longitudinal File

GAIN 1

```
* * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * * *
                MG1      MATH GAIN PRE YR1 TO POST YR1
             BY MGP      MATHEMATICS TREATMENT GROUP
                W3       GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                           SUM OF                        MEAN              SIGNIF
SOURCE OF VARIATION                       SQUARES       DF              SQUARE        F      OF F

MAIN EFFECTS                             3397.633        5             679.527    3.063     0.017
   MGP                                     11.592        1              11.592    0.052     0.820
   W3                                    3388.950        4             847.237    3.819     0.005

2-WAY INTERACTIONS                         20.942        4               5.235    0.024     0.999
   MGP       W3                            20.942        4               5.235    0.024     0.999

EXPLAINED                                3418.578        9             379.842    1.712     0.111

RESIDUAL                                11093.520       50             221.870

TOTAL                                   14512.098       59             245.968


     254 CASES WERE PROCESSED.
     194 CASES ( 76.4 PCT) WERE MISSING.
```

TABLE A7

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 1 - Year 2 Longitudinal File

GAIN 2

```
* * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * * *
               MG2       MATH GAIN PRE YR1 TO PRE YR2
            BY MGP       MATHEMATICS TREATMENT GROUP
               W3        GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                   MEAN              SIGNIF
SOURCE OF VARIATION                      SQUARES       DF         SQUARE        F     OF F

MAIN EFFECTS                            3565.746        5        713.149    4.116    0.003
   MGP                                   254.982        1        254.982    1.472    0.230
   W3                                   3512.106        4        878.026    5.068    0.001

2-WAY INTERACTIONS                       728.153        4        182.038    1.051    0.389
   MGP       W3                          728.156        4        182.039    1.051    0.389

EXPLAINED                               4293.898        9        477.100    2.754    0.009

RESIDUAL                               10049.055       58        173.260

TOTAL                                  14342.953       67        214.074


    254 CASES WERE PROCESSED.
    186 CASES ( 73.2 PCT) WERE MISSING.
```

TABLE A8
Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 1 - Year 2 Longitudinal File
GAIN 3

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
            MG3      MATH GAIN PRE YR1 TO POST YR2
         BY MGP      MATHEMATICS TREATMENT GROUP
            W3       GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                     SUM OF                  MEAN          SIGNIF
SOURCE OF VARIATION                 SQUARES      DF        SQUARE      F     OF F

MAIN EFFECTS                       3066.309       5       613.262  3.500    0.008
   MGP                              103.855       1       103.855  0.593    0.445
   W3                              2965.313       4       741.328  4.230    0.005

2-WAY INTERACTIONS                  507.337       4       126.834  0.724    0.579
   MGP       W3                     507.337       4       126.834  0.724    0.579

EXPLAINED                          3573.648       9       397.072  2.266    0.031

RESIDUAL                           9637.922      55       175.235

TOTAL                             13211.570      64       206.431

     254 CASES WERE PROCESSED.
     189 CASES ( 74.4 PCT) WERE MISSING.
```

TABLE A9

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 1 - Year 2 Longitudinal File

GAIN 4

```
* * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * *
             MG4      MATH GAIN OVER SUMMER
          BY MGP      MATHEMATICS TREATMENT GROUP
             W3       GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                       MEAN             SIGNIF
SOURCE OF VARIATION                      SQUARES      DF             SQUARE       F       OF F

MAIN EFFECTS                            3317.424       5            663.485   2.600      0.037
   MGP                                   377.751       1            377.751   1.480      0.230
   W3                                   3258.445       4            814.611   3.193      0.021

2-WAY INTERACTIONS                       940.294       4            235.074   0.921      0.459
   MGP       W3                          940.295       4            235.074   0.921      0.459

EXPLAINED                               4257.719       9            473.080   1.854      0.082

RESIDUAL                               12502.586      49            255.155

TOTAL                                  16760.305      58            288.971


    254 CASES WERE PROCESSED.
    195 CASES ( 76.8 PCT) WERE MISSING.
```

TABLE A10

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 1 - Year 2 Longitudinal File

GAIN 5

```
* * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * * *
                MG5       MATH GAIN PRE YR2 TO POST YR2
             BY MGP       MATHEMATICS TREATMENT GROUP
                W3        GRADE LEVEL 81
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                        SUM OF                       MEAN              SIGNIF
SOURCE OF VARIATION                    SQUARES       DF             SQUARE        F      OF F

MAIN EFFECTS                          1295.082        5            259.016    1.953     0.101
   MGP                                  64.006        1             64.006    0.483     0.490
   W3                                 1267.795        4            316.948    2.390     0.062

2-WAY INTERACTIONS                     768.258        4            192.064    1.448     0.231
   MGP       W3                        768.258        4            192.064    1.448     0.231

EXPLAINED                             2063.340        9            229.260    1.729     0.105

RESIDUAL                              7160.914       54            132.610

TOTAL                                 9224.254       63            146.417

    254 CASES WERE PROCESSED.
    190 CASES ( 74.8 PCT) WERE MISSING.
```

TABLE A11

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 2 - Year 3 Longitudinal File

GAIN 1

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
            RG1      READING GAIN PRE YR2 TO POST YR2
         BY RGP      READING TREATMENT GROUP
            X3       GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                       SUM OF                   MEAN            SIGNIF
SOURCE OF VARIATION                   SQUARES      DF         SQUARE        F     OF F

MAIN EFFECTS                          868.338       4        217.084    1.842    0.132
   RGP                                138.495       1        138.495    1.175    0.282
   X3                                 642.914       3        214.305    1.818    0.153

2-WAY INTERACTIONS                    307.095       3        102.365    0.869    0.462
   RGP       X3                       307.094       3        102.365    0.869    0.462

EXPLAINED                            1175.434       7        167.919    1.425    0.211

RESIDUAL                             7542.805      64        117.856

TOTAL                                8718.238      71        122.792


    163 CASES WERE PROCESSED.
     91 CASES ( 55.8 PCT) WERE MISSING.
```

TABLE A12

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 2 - Year 3 Longitudinal File

GAIN 2

```
* * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * *
             RG2      READING GAIN PRE YR2 TO PRE YR3
          BY RGP      READING TREATMENT GROUP
             X3       GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                      MEAN              SIGNIF
SOURCE OF VARIATION                      SQUARES      DF             SQUARE        F       OF F

MAIN EFFECTS                             297.460       4             74.365    0.643    0.634
   RGP                                   116.034       1            116.034    1.003    0.320
   X3                                    151.584       3             50.528    0.437    0.727

2-WAY INTERACTIONS                       111.300       3             37.100    0.321    0.810
   RGP      X3                           111.300       3             37.100    0.321    0.810

EXPLAINED                                408.762       7             58.395    0.505    0.828

RESIDUAL                                7519.988      65            115.692

TOTAL                                   7928.750      72            110.122

     163 CASES WERE PROCESSED.
      90 CASES ( 55.2 PCT) WERE MISSING.
```

TABLE A13

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 2 - Year 3 Longitudinal File

GAIN 3

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
         RG3      READING GAIN PRE YR2 TO POST YR3
      BY RGP      READING TREATMENT GROUP
         X3       GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                    SUM OF                  MEAN           SIGNIF
SOURCE OF VARIATION                SQUARES      DF        SQUARE        F    OF F

MAIN EFFECTS                      1352.440       4       338.110    2.310   0.068
   RGP                             721.271       1       721.271    4.929   0.030
   X3                              719.145       3       239.715    1.638   0.190

2-WAY INTERACTIONS                  25.378       3         8.459    0.058   0.982
   RGP       X3                     25.378       3         8.459    0.058   0.982

EXPLAINED                         1377.820       7       196.831    1.345   0.245

RESIDUAL                          8927.020      61       146.345

TOTAL                            10304.840      68       151.542


    163 CASES WERE PROCESSED.
     94 CASES ( 57.7 PCT) WERE MISSING.
```

//

TABLE A14

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 2 - Year 3 Longitudinal File

GAIN 4

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
               RG4     READING GAIN OVER SUMMER
            BY RGP     READING TREATMENT GROUP
               X3      GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                      SUM OF                MEAN            SIGNIF
SOURCE OF VARIATION                  SQUARES      DF       SQUARE        F    OF F

MAIN EFFECTS                         635.909       4      158.977    1.248   0.300
   RGP                                 1.476       1        1.476    0.012   0.915
   X3                                625.184       3      208.395    1.636   0.190

2-WAY INTERACTIONS                   211.460       3       70.487    0.553   0.648
   RGP       X3                      211.460       3       70.487    0.553   0.648

EXPLAINED                            847.371       7      121.053    0.951   0.475

RESIDUAL                            8150.836      64      127.357

TOTAL                               8998.207      71      126.735


    163 CASES WERE PROCESSED.
     91 CASES ( 55.8 PCT) WERE MISSING.
```

TABLE A15

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Reading for the Year 2 - Year 3 Longitudinal File

GAIN 5

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * *
         RG5       READING GAIN PRE YR3 TO POST YR3
      BY RGP       READING TREATMENT GROUP
         X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                         SUM OF                  MEAN            SIGNIF
SOURCE OF VARIATION                     SQUARES      DF        SQUARE        F     OF F

MAIN EFFECTS                           1333.952       4       333.488    3.140    0.021
   RGP                                  304.584       1       304.584    2.868    0.095
   X3                                  1153.029       3       384.343    3.619    0.018

2-WAY INTERACTIONS                       26.715       3         8.905    0.084    0.969
   RGP       X3                          26.715       3         8.905    0.084    0.969

EXPLAINED                              1360.668       7       194.381    1.830    0.098

RESIDUAL                               6479.012      61       106.213

TOTAL                                  7839.680      68       115.289


    163 CASES WERE PROCESSED.
     94 CASES ( 57.7 PCT) WERE MISSING.
```

TABLE A16

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 2 - Year 3 Longitudinal File

GAIN 1

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
             MG1      MATH GAIN PRE YR2 TO POST YR2
          BY MGP
             X3       GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                 SUM OF                  MEAN           SIGNIF
SOURCE OF VARIATION             SQUARES      DF        SQUARE       F     OF F

MAIN EFFECTS                   2060.006       5       412.001   2.951    0.030
   MGP                          159.879       1       159.879   1.145    0.294
   X3                          1788.661       4       447.165   3.203    0.028

2-WAY INTERACTIONS              191.471       4        47.868   0.343    0.847
   MGP       X3                 191.471       4        47.868   0.343    0.847

EXPLAINED                      2251.476       9       250.164   1.792    0.116

RESIDUAL                       3769.223      27       139.601

TOTAL                          6020.699      36       167.242


     163 CASES WERE PROCESSED.
     126 CASES ( 77.3 PCT) WERE MISSING.
```

TABLE A17

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 2 - Year 3 Longitudinal File

GAIN 2

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
               MG2      MATH GAIN PRE YR2 TO PRE YR3
            BY MGP
               X3       GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                        SUM OF                   MEAN             SIGNIF
SOURCE OF VARIATION                    SQUARES       DF         SQUARE        F     OF F

MAIN EFFECTS                          2982.954        5        596.591    4.316    0.005
   MGP                                2024.510        1       2024.510   14.647    0.001
   X3                                  963.070        4        240.767    1.742    0.170

2-WAY INTERACTIONS                     391.687        4         97.922    0.708    0.593
   MGP       X3                        391.687        4         97.922    0.708    0.593

EXPLAINED                             3374.641        9        374.960    2.713    0.022

RESIDUAL                              3732.020       27        138.223

TOTAL                                 7106.660       36        197.407

     163 CASES WERE PROCESSED.
     126 CASES ( 77.3 PCT) WERE MISSING.
```

TABLE A13

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 2 - Year 3 Longitudinal File

GAIN 3

```
* * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * * *
         MG3       MATH GAIN PRE YR2 TO POST YR3
      BY MGP
         X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                          SUM OF                      MEAN              SIGNIF
SOURCE OF VARIATION                      SQUARES       DF           SQUARE          F     OF F

MAIN EFFECTS                            1264.070        5          252.814      1.967    0.128
   MGP                                   431.438        1          431.438      3.356    0.082
   X3                                    552.049        4          138.012      1.074    0.396

2-WAY INTERACTIONS                       120.093        4           30.023      0.234    0.916
   MGP       X3                          120.093        4           30.023      0.234    0.916

EXPLAINED                               1384.163        9          153.796      1.196    0.350

RESIDUAL                                2571.187       20          128.559

TOTAL                                   3955.350       29          136.391


    163 CASES WERE PROCESSED.
    133 CASES ( 81.6 PCT) WERE MISSING.
```

TABLE A19

Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 2 - Year 3 Longitudinal File

GAIN 4

```
* * * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
            MG4       MATH GAIN OVER SUMMER
         BY MGP
            X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                        SUM OF                     MEAN                 SIGNIF
SOURCE OF VARIATION                    SQUARES        DF         SQUARE          F       OF F

MAIN EFFECTS                          1996.048         5        399.209      4.471      0.004
   MGP                                1128.462         1       1128.462     12.639      0.00
   X3                                 1115.098         4        278.774      3.122      0.03

2-WAY INTERACTIONS                     223.038         4         55.760      0.625      0.649
   MGP        X3                       223.038         4         55.759      0.625      0.64

EXPLAINED                             2219.086         9        246.565      2.762      0.019

RESIDUAL                              2499.914        28         89.283

TOTAL                                 4719.000        37        127.541


     163 CASES WERE PROCESSED.
     125 CASES ( 76.7 PCT) WERE MISSING.
```

TABLE A20
Two-Way Analyses of Variance of Mean NCE Gains by Treatment and Grade Level for Five Longitudinal Gains in Mathematics for the Year 2 - Year 3 Longitudinal File
GAIN 5

```
* * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * *
          MG5       MATH GAIN PRE YR3 TO POST YR3
       BY MGP
          X3        GRADE LEVEL 82
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


                                      SUM OF                  MEAN            SIGNIF
SOURCE OF VARIATION                   SQUARES      DF         SQUARE      F     OF F

MAIN EFFECTS                          784.473       5        156.895   1.286   0.307
   MGP                                194.521       1        194.521   1.595   0.221
   X3                                 621.762       4        155.440   1.274   0.312

2-WAY INTERACTIONS                    331.832       4         82.958   0.680   0.613
   MGP       X3                       331.832       4         82.958   0.680   0.613

EXPLAINED                            1116.305       9        124.034   1.017   0.456

RESIDUAL                             2561.892      21        121.995

TOTAL                                3678.197      30        122.607


     163 CASES WERE PROCESSED.
     132 CASES ( 81.0 PCT) WERE MISSING.
```

TABLE A21

Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading in the Year 1 - Year 2 Longitudinal File

READING PRETEST YEAR 1

```
- - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   V31        READING PRETEST NCE SCORE 80
    BROKEN DOWN BY   W3         GRADE LEVEL 81
                BY   RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE     VALUE LABEL                     SUM          MEAN        STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                           4243.2993      31.4318      11.5211      132.7350    (   135)

W3                          2.     GRADE TWO                     496.0999      29.1823      19.1712      367.5340    (    17)
   RGP                      2.     NON YR 1, NON YR 2            387.6999      32.3083      21.4769      461.2553    (    12)
   RGP                      3.     NON YR 1, CAI YR 2            108.4000      21.6800      10.1001      102.0120    (     5)

W3                          3.     GRADE THREE                   499.9999      33.3333       6.8705       47.2038    (    15)
   RGP                      1.     CAI YR 1, CAI YR 2            176.9000      35.3800       6.5641       43.0870    (     5)
   RGP                      2.     NON YR 1, NON YR 2            196.9000      32.8167       6.0284       36.3417    (     6)
   RGP                      3.     NON YR 1, CAI YR 2            126.2000      31.5500       9.5137       90.5100    (     4)

W3                          4.     GRADE FOUR                   1117.7998      33.8727       6.8780       47.3070    (    33)
   RGP                      1.     CAI YR 1, CAI YR 2            804.4999      33.5208       6.6809       44.6348    (    24)
   RGP                      2.     NON YR 1, NON YR 2            313.2999      34.8111       7.7163       59.5411    (     9)

W3                          5.     GRADE FIVE                    776.8999      29.8808      11.7316      137.6360    (    26)
   RGP                      1.     CAI YR 1, CAI YR 2            284.2000      31.5778      15.8602      251.5469    (     9)
   RGP                      2.     NON YR 1, NON YR 2            492.6999      28.9823       9.3169       86.8053    (    17)

W3                          6.     GRADE SIX                     395.6999      30.4385      13.8996      193.1975    (    13)
   RGP                      1.     CAI YR 1, CAI YR 2            270.9999      30.1111      10.2121      104.2861    (     9)
   RGP                      2.     NON YR 1, NON YR 2            124.7000      31.1750      22.2182      493.6491    (     4)

W3                          7.     GRADE SEVEN                   440.4999      31.4643       8.1620       66.6179    (    14)
   RGP                      1.     CAI YR 1, CAI YR 2            440.4999      31.4643       8.1620       66.6179    (    14)

W3                          8.     GRADE EIGHT                   111.7000      27.9250       9.4171       88.6826    (     4)
   RGP                      2.     NON YR 1, NON YR 2            111.7000      27.9250       9.4171       88.6826    (     4)

W3                          9.     GRADE NINE                     23.0000      23.0000       0.0            0.0      (     1)
   RGP                      2.     NON YR 1, NON YR 2             23.0000      23.0000       0.0            0.0      (     1)

W3                         10.     GRADE TEN                     209.9000      29.9857      13.0708      170.8447    (     7)
   RGP                      1.     CAI YR 1, CAI YR 2             58.1000      29.0500      12.2329      149.6451    (     2)
   RGP                      2.     NON YR 1, NON YR 2            115.7000      38.5667      12.6263      159.4233    (     3)
   RGP                      4.     CAI YR 1, NON YR 2             36.1000      18.0500       7.0004       49.0050    (     2)

W3                         11.     GRADE ELEVEN                  171.7000      34.3400      17.5027      306.3429    (     5)
   RGP                      4.     CAI YR 1, NON YR 2            171.7000      34.3400      17.5027      306.3429    (     5)

  TOTAL CASES =      244
MISSING CASES =      109 OR  44.7 PCT.
```

TABLE A22

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 1 - Year 2 Longitudinal File

READING POST TEST YEAR 1

```
- - - - - - - - - - - - - - - - - -   D E S C R I P T I O N   O F   S U B P O P U L A T I O N S   - - - - - - - - - - - - - - - -
CRITERION VARIABLE    V33        READING POSTTEST NCE SCORE 80
    BROKEN DOWN BY    W3         GRADE LEVEL 81
                BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE      VALUE LABEL                    SUM            MEAN         STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                       4995.3993         38.7240         10.8609       117.9596     (   129)


W3                          2.     GRADE TWO                 781.5999         45.9765         12.2086       149.0506     (    17)
   RGP                      2.     NON YR 1, NON YR 2        543.9999         45.3333         12.7574       162.7515     (    12)
   RGP                      3.     NON YR 1, CAI YR 2        237.6000         47.5200         12.0174       144.4170     (     5)

W3                          3.     GRADE THREE               484.7000         44.0636          8.5570        73.2225     (    11)
   RGP                      1.     CAI YR 1, CAI YR 2        221.9000         44.3800          3.8363        14.7170     (     5)
   RGP                      2.     NON YR 1, NON YR 2        262.8000         43.8000         11.5969       134.4880     (     6)

W3                          4.     GRADE FOUR               1291.7998         40.3687          9.2868        86.2448     (    32)
   RGP                      1.     CAI YR 1, CAI YR 2        970.4998         40.4375          9.6327        92.7894     (    24)
   RGP                      2.     NON YR 1, NON YR 2        321.3000         40.1625          8.7748        76.9970     (     8)

W3                          5.     GRADE FIVE                878.5999         35.1440          9.6298        92.7325     (    25)
   RGP                      1.     CAI YR 1, CAI YR 2        317.1000         39.6375          8.0615        64.9884     (     8)
   RGP                      2.     NON YR 1, NON YR 2        561.4999         33.0294          9.7888        95.8197     (    17)

W3                          6.     GRADE SIX                 450.7000         34.6692          9.2414        85.4040     (    13)
   RGP                      1.     CAI YR 1, CAI YR 2        303.8000         33.7556          7.4081        54.8803     (     9)
   RGP                      2.     NON YR 1, NON YR 2      , 146.9000         36.7250         13.6795       187.1292     (     4)

W3                          7.     GRADE SEVEN               513.3999         36.6714          7.1813        51.5714     (    14)
   RGP                      1.     CAI YR 1, CAI YR 2        513.3999         36.6714          7.1813        51.5714     (    14)

W3                          8.     GRADE EIGHT                93.4000         23.3500          9.5880        91.9300     (     4)
   RGP                      2.     NON YR 1, NON YR 2         93.4000         23.3500          9.5880        91.9300     (     4)

W3                          9.     GRADE NINE                 17.3000         17.3000          0.0            0.0        (     1)
   RGP                      2.     NON YR 1, NON YR 2         17.3000         17.3000          0.0            0.0        (     1)

W3                         10.     GRADE TEN                 277.5000         39.6429         15.3537       235.7362     (     7)
   RGP                      1.     CAI YR 1, CAI YR 2         72.7000         36.3500         10.2530       105.1250     (     2)
   RGP                      2.     NON YR 1, NON YR 2        142.8000         47.6000         20.2517       410.1300     (     3)
   RGP                      4.     CAI YR 1, NON YR 2         62.0000         31.0000         11.3137       128.0000     (     2)

W3                         11.     GRADE ELEVEN              206.4000         41.2800          9.5740        91.6620     (     5)
   RGP                      4.     CAI YR 1, NON YR 2        206.4000         41.2800          9.5740        91.6620     (     5)

  TOTAL CASES =      244
MISSING CASES =      115 OR  47.1 PCT.
```

TABLE A23
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 1 - Year 2 Longitudinal File
READING PRETEST YEAR 2

```
- - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE   W31        READING PRETEST NCE SCORE 81
   BROKEN DOWN BY    W3         GRADE LEVEL 81
               BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                        SUM          MEAN       STD DEV     VARIANCE       N

FOR ENTIRE POPULATION                                                4727.8993      35.0215     11.0805     122.7777    (  135)

W3                           2.      GRADE TWO                        697.3999      41.0235     10.7339     115.2157  (     17)
   RGP                       2.      NON YR 1, NON YR 2               505.5000      42.1250     11.5436     133.2548  (     12)
   RGP                       3.      NON YR 1, CAI YR 2               191.9000      38.3800      9.0574      82.0370  (      5)

W3                           3.      GRADE THREE                      614.6999      40.9800     11.7285     137.5574  (     15)
   RGP                       1.      CAI YR 1, CAI YR 2               192.0000      38.4000      5.8992      34.8000  (      5)
   RGP                       2.      NON YR 1, NON YR 2               283.8000      47.3000     15.1054     228.1719  (      6)
   RGP                       3.      NON YR 1, CAI YR 2               138.9000      34.7250      8.4913      72.1025  (      4)

W3                           4.      GRADE FOUR                      1134.7998      34.3879      8.6044      74.0361  (     33)
   RGP                       1.      CAI YR 1, CAI YR 2               783.8998      32.6625      8.8148      77.7016  (     24)
   RGP                       2.      NON YR 1, NON YR 2               350.9000      38.9889      6.3250      40.0061  (      9)

W3                           5.      GRADE FIVE                       851.1999      32.7385     10.5873     112.0904  (     26)
   RGP                       1.      CAI YR 1, CAI YR 2               257.5000      28.6111     13.7200     188.2386  (      9)
   RGP                       2.      NON YR 1, NON YR 2               593.6999      34.9235      8.1466      66.3669  (     17)

W3                           6.      GRADE SIX                        437.5000      36.4583     12.1751     148.2336  (     12)
   RGP                       1.      CAI YR 1, CAI YR 2               274.7000      34.3375     11.4896     132.0113  (      8)
   RGP                       2.      NON YR 1, NON YR 2               162.8000      40.7000     14.1249     199.5134  (      4)

W3                           7.      GRADE SEVEN                      470.3999      33.6000      7.6000      57.7600  (     14)
   RGP                       1.      CAI YR 1, CAI YR 2               470.3999      33.6000      7.6000      57.7600  (     14)

W3                           8.      GRADE EIGHT                      107.5000      26.8750     11.0834     122.8425  (      4)
   RGP                       2.      NON YR 1, NON YR 2               107.5000      26.8750     11.0834     122.8425  (      4)

W3                           9.      GRADE NINE                        23.0000      23.0000      0.0          0.0      (      1)
   RGP                       2.      NON YR 1, NON YR 2                23.0000      23.0000      0.0          0.0      (      1)

W3                          10.      GRADE TEN                        208.7999      26.1000     16.1405     260.5170  (      8)
   RGP                       1.      CAI YR 1, CAI YR 2                47.8000      23.9000     32.3855    1048.8194  (      2)
   RGP                       2.      NON YR 1, NON YR 2               111.4000      27.8500     14.5715     212.3299  (      4)
   RGP                       4.      CAI YR 1, NON YR 2                49.6000      24.8000     10.6066     112.5000  (      2)

W3                          11.      GRADE ELEVEN                     182.6000      36.5200     11.5454     133.2970  (      5)
   RGP                       4.      CAI YR 1, NON YR 2               182.6000      36.5200     11.5454     133.2970  (      5)

  TOTAL CASES =      244
MISSING CASES =      109 OR  44.7 PCT.
```

TABLE A24
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading in the Year 1 - Year 2 Longitudinal File
READING POST TEST YEAR 2

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE    W33        READING POSTTEST NCE SCORE 81
     BROKEN DOWN BY   W3         GRADE LEVEL 81
                 BY   RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                   CODE    VALUE LABEL                     SUM          MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                          5149.1992       38.4269      13.0764      170.9925    (   134)


W3                           2.    GRADE TWO                    713.3999       41.9647      18.6874      349.2174    (    17)
   RGP                       2.    NON YR 1, NON YR 2           524.5999       43.7167      21.7348      472.4015    (    12)
   RGP                       3.    NON YR 1, CAI YR 2           188.0000       37.7600       8.1522       66.4580    (     5)

W3                           3.    GRADE THREE                  649.4999       43.3000      16.4285      269.8942    (    15)
   RGP                       1.    CAI YR 1, CAI YR 2           214.0000       42.8000       9.0896       82.6200    (     5)
   RGP                       2.    NON YR 1, NON YR 2           206.2000       34.3667      19.0477      362.8146    (     6)
   RGP                       3.    NON YR 1, CAI YR 2           229.3000       57.3250      11.0618      122.3625    (     4)

W3                           4.    GRADE FOUR                  1255.5999       39.2375       9.0731       82.3205    (    32)
   RGP                       1.    CAI YR 1, CAI YR 2           941.6999       39.2375       9.5422       91.0538    (    24)
   RGP                       2.    NON YR 1, NON YR 2           313.9000       39.2375       8.0861       65.3855    (     8)

W3                           5.    GRADE FIVE                   972.2999       37.3961       9.7781       95.6108    (    26)
   RGP                       1.    CAI YR 1, CAI YR 2           403.2000       44.8000      10.0970      101.9500    (     9)
   RGP                       2.    NON YR 1, NON YR 2           569.0999       33.4765       7.1595       51.2582    (    17)

W3                           6.    GRADE SIX                    499.1999       41.6000       9.4303       88.9309    (    12)
   RGP                       1.    CAI YR 1, CAI YR 2           328.1000       41.0125       8.4038       70.6241    (     8)
   RGP                       2.    NON YR 1, NON YR 2           171.1000       42.7750      12.5908      158.5292    (     4)

W3                           7.    GRADE SEVEN                  453.3999       32.3857      10.0601      101.2060    (    14)
   RGP                       1.    CAI YR 1, CAI YR 2           453.3999       32.3857      10.0601      101.2060    (    14)

W3                           8.    GRADE EIGHT                  100.4000       25.1000       9.1840       84.3467    (     4)
   RGP                       2.    NON YR 1, NON YR 2           100.4000       25.1000       9.1840       84.3467    (     4)

W3                           9.    GRADE NINE                    20.4000       20.4000       0.0           0.0       (     1)
   RGP                       2.    NON YR 1, NON YR 2            20.4000       20.4000       0.0           0.0       (     1)

W3                          10.    GRADE TEN                    301.4000       37.6750      15.8091      249.9278    (     8)
   RGP                       1.    CAI YR 1, CAI YR 2            66.3000       33.1500      28.3550      804.0049    (     2)
   RGP                       2.    NON YR 1, NON YR 2           181.4000       45.3500      11.6177      134.9701    (     4)
   RGP                       4.    CAI YR 1, NON YR 2            53.7000       26.8500       5.4447       29.6450    (     2)

W3                          11.    GRADE ELEVEN                 183.6000       36.7200      21.4095      458.3668    (     5)
   RGP                       4.    CAI YR 1, NON YR 2           183.6000       36.7200      21.4095      458.3668    (     5)

  TOTAL CASES =       244
MISSING CASES =       110 OR  45.1 PCT.
```

TABLE A25
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 1 - Year 2 Longitudinal File
GAIN 1

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    RG1        READING GAIN PRE YR1 TO POST YR1
    BROKEN DOWN BY    W3         GRADE LEVEL 81
                BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                     SUM          MEAN       STD DEV      VARIANCE         N

FOR ENTIRE POPULATION                                              965.5000       7.4845     12.5543      157.8114     (   129)


W3                           2.      GRADE TWO                     285.5000      16.7941     20.4479      418.1167     (    17)
  RGP                        2.      NON YR 1, NON YR 2            156.3000      13.0250     22.0843      487.7184     (    12)
  RGP                        3.      NON YR 1, CAI YR 2            129.2000      25.8400     13.4290      180.3378     (     5)

W3                           3.      GRADE THREE                   110.9000      10.0818      8.3775       70.1817     (    11)
  RGP                        1.      CAI YR 1, CAI YR 2             45.0000       9.0000      8.1397       66.2550     (     5)
  RGP                        2.      NON YR 1, NON YR 2             65.9000      10.9833      9.2311       85.2137     (     6)

W3                           4.      GRADE FOUR                    216.5000       6.7656     10.6893      114.2610     (    32)
  RGP                        1.      CAI YR 1, CAI YR 2            166.0000       6.9167     11.7812      138.7971     (    24)
  RGP                        2.      NON YR 1, NON YR 2             50.5000       6.3125      7.0465       49.6527     (     8)

W3                           5.      GRADE FIVE                    146.4000       5.8560     12.6325      159.5800     (    25)
  RGP                        1.      CAI YR 1, CAI YR 2             77.6000       9.7000     16.9187      286.2428     (     8)
  RGP                        2.      NON YR 1, NON YR 2             68.8000       4.0471     10.1624      103.2739     (    17)

W3                           6.      GRADE SIX                      55.0000       4.2308     10.1091      102.1940     (    13)
  RGP                        1.      CAI YR 1, CAI YR 2             32.8000       3.6444     10.3960      108.0778     (     9)
  RGP                        2.      NON YR 1, NON YR 2             22.2000       5.5500     10.8267      117.2166     (     4)

W3                           7.      GRADE SEVEN                    72.9000       5.2071      5.9018       34.8315     (    14)
  RGP                        1.      CAI YR 1, CAI YR 2             72.9000       5.2071      5.9018       34.8315     (    14)

W3                           8.      GRADE EIGHT                   -18.3000      -4.5750      4.1812       17.4825     (     4)
  RGP                        2.      NON YR 1, NON YR 2            -18.3000      -4.5750      4.1812       17.4825     (     4)

W3                           9.      GRADE NINE                     -5.7000      -5.7000      0.0           0.0        (     1)
  RGP                        2.      NON YR 1, NON YR 2             -5.7000      -5.7000      0.0           0.0        (     1)

W3                          10.      GRADE TEN                      67.6000       9.6571      6.2078       38.5362     (     7)
  RGP                        1.      CAI YR 1, CAI YR 2             14.6000       7.3000      1.9799        3.9200     (     2)
  RGP                        2.      NON YR 1, NON YR 2             27.1000       9.0333      9.3468       87.3634     (     3)
  RGP                        4.      CAI YR 1, NON YR 2             25.9000      12.9500      4.3134       18.6050     (     2)

W3                          11.      GRADE ELEVEN                   34.7000       6.9400     14.2919      204.2576     (     5)
  RGP                        4.      CAI YR 1, NON YR 2             34.7000       6.9400     14.2919      204.2576     (     5)

  TOTAL CASES =      244
MISSING CASES =      115 OR  47.1 PCT.
```

TABLE A26
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 1 - Year 2 Longitudinal File
GAIN 2

```
------------------- D E S C R I P T I O N   O F   S U B P O P U L A T I O N S ------------------
CRITERION VARIABLE    RG2       READING GAIN PRE YR1 TO PRE YR2
   BROKEN DOWN BY     W3        GRADE LEVEL 81
               BY     RGP       REALING TREATMENT GROUP
--------------------------------------------------------------------------------------------------

VARIABLE                   CODE     VALUE LABEL                  SUM        MEAN      STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                        514.4000      3.8677     14.2393      202.7578   (  133)


W3                          2.      GRADE TWO                201.3000     11.8412     23.1474      535.8025   (   17)
   RGP                      2.      NON YR 1, NON YR 2       117.8000      9.8167     25.8279      667.0797   (   12)
   RGP                      3.      NON YR 1, CAI YR 2        83.5000     16.7000     16.3381      266.9348   (    5)

W3                          3.      GRADE THREE              114.7000      7.6467     13.2442      175.4084   (   15)
   RGP                      1.      CAI YR 1, CAI YR 2        15.1000      3.0200     10.8451      117.6172   (    5)
   RGP                      2.      NON YR 1, NON YR 2        86.9000     14.4833     13.4072      179.7536   (    6)
   RGP                      3.      NON YR 1, CAI YR 2        12.7000      3.1750     14.3646      206.3425   (    4)

W3                          4.      GRADE FOUR                24.4000      0.7625      9.9714       99.4295   (   32)
   RGP                      1.      CAI YR 1, CAI YR 2       -13.2000     -0.5739     10.2656      105.3829   (   23)
   RGP                      2.      NON YR 1, NON YR 2        37.6000      4.1778      8.7880       77.2294   (    9)

W3                          5.      GRADE FIVE                74.3000      2.8577     15.3635      236.0376   (   26)
   RGP                      1.      CAI YR 1, CAI YR 2       -26.7000     -2.9667     21.2441      451.3123   (    9)
   RGP                      2.      NON YR 1, NON YR 2       101.0000      5.9412     10.6756      113.9667   (   17)

W3                          6.      GRADE SIX                 70.9000      5.9083     13.0353      169.9150   (   12)
   RGP                      1.      CAI YR 1, CAI YR 2        32.8000      4.1000     10.8818      118.4143   (    8)
   RGP                      2.      NON YR 1, NON YR 2        38.1000      9.5250     17.9046      320.5756   (    4)

W3                          7.      GRADE SEVEN               29.9000      2.1357      7.6053       57.8409   (   14)
   RGP                      1.      CAI YR 1, CAI YR 2        29.9000      2.1357      7.6053       57.8409   (   14)

W3                          8.      GRADE EIGHT               -4.2000     -1.0500     13.7469      188.9766   (    4)
   RGP                      2.      NON YR 1, NON YR 2        -4.2000     -1.0500     13.7469      188.9766   (    4)

W3                          9.      GRADE NINE                 0.0         0.0         0.0           0.0      (    1)
   RGP                      2.      NON YR 1, NON YR 2         0.0         0.0         0.0           0.0      (    1)

W3                         10.      GRADE TEN                 -7.8000     -1.1143     12.0819      145.9713   (    7)
   RGP                      1.      CAI YR 1, CAI YR 2       -10.3000     -5.1500     20.1525      406.1246   (    2)
   RGP                      2.      NON YR 1, NON YR 2       -11.0000     -3.6667     11.8509      140.4433   (    3)
   RGP                      4.      CAI YR 1, NON YR 2        13.5000      6.7500      3.6062       13.0050   (    2)

W3                         11.      GRADE ELEVEN              10.9000      2.1800     12.9101      166.6719   (    5)
   RGP                      4.      CAI YR 1, NON YR 2        10.9000      2.1800     12.9101      166.6719   (    5)

  TOTAL CASES =      244
MISSING CASES =      111 OR  45.5 PCT.
```

TABLE A27
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading in the Year 1 - Year 2 Longitudinal File
GAIN 3

```
------------------ D E S C R I P T I O N   O F   S U B P O P U L A T I O N S -------------------
CRITERION VARIABLE    RG3        READING GAIN PRE YR1 TO POST YR2
   BROKEN DOWN BY     W3         GRADE LEVEL 81
               BY     RGP        READING TREATMENT GROUP
-------------------------------------------------------------------------------------------------

VARIABLE                CODE      VALUE LABEL                    SUM          MEAN       STD DEV     VARIANCE        N

FOR ENTIRE POPULATION                                          949.7999      7.1955      15.9365     253.9722   (  132)

W3                        2.      GRADE TWO                    217.2999     12.7823      30.7739     947.0315   (   17)
   RGP                    2.      NON YR 1, NON YR 2           136.9000     11.4083      35.6558    1271.3354   (   12)
   RGP                    3.      NON YR 1, CAI YR 2            80.4000     16.0800      16.5135     272.6967   (    5)

W3                        3.      GRADE THREE                  149.5000      9.9667      19.3696     375.1795   (   15)
   RGP                    1.      CAI YR 1, CAI YR 2            37.1000      7.4200      15.6108     243.6971   (    5)
   RGP                    2.      NON YR 1, NON YR 2             9.3000      1.5500      19.9054     396.2230   (    6)
   RGP                    3.      NON YR 1, CAI YR 2           103.1000     25.7750      16.7285     279.8425   (    4)

W3                        4.      GRADE FOUR                   184.9000      5.9645      11.3018     127.7310   (   31)
   RGP                    1.      CAI YR 1, CAI YR 2           141.8000      6.1652      10.9004     116.8187   (   23)
   RGP                    2.      NON YR 1, NON YR 2            43.1000      5.3875      13.1710     173.4755   (    8)

W3                        5.      GRADE FIVE                   195.4000      7.5154       9.4681      89.6453   (   26)
   RGP                    1.      CAI YR 1, CAI YR 2           119.0000     13.2222      10.8333     117.3594   (    9)
   RGP                    2.      NON YR 1, NON YR 2            76.4000      4.4941       7.3057      53.3731   (   17)

W3                        6.      GRADE SIX                    132.6000     11.0500      14.7568     217.7644   (   12)
   RGP                    1.      CAI YR 1, CAI YR 2            86.2000     10.7750      13.5698     184.1392   (    8)
   RGP                    2.      NON YR 1, NON YR 2            46.4000     11.6000      19.1887     368.2065   (    4)

W3                        7.      GRADE SEVEN                   12.9000      0.9214       9.6545      93.2096   (   14)
   RGP                    1.      CAI YR 1, CAI YR 2            12.9000      0.9214       9.6545      93.2096   (   14)

W3                        8.      GRADE EIGHT                  -11.3000     -2.8250      12.0062     144.1492   (    4)
   RGP                    2.      NON YR 1, NON YR 2           -11.3000     -2.8250      12.0062     144.1492   (    4)

W3                        9.      GRADE NINE                    -2.6000     -2.6000       0.0          0.0     (    1)
   RGP                    2.      NON YR 1, NON YR 2            -2.6000     -2.6000       0.0          0.0     (    1)

W3                       10.      GRADE TEN                     59.2000      8.4571       9.2040      84.7128   (    7)
   RGP                    1.      CAI YR 1, CAI YR 2             8.2000      4.1000      16.1220     259.9199   (    2)
   RGP                    2.      NON YR 1, NON YR 2            33.4000     11.1333       9.6500      93.1233   (    3)
   RGP                    4.      CAI YR 1, NON YR 2            17.6000      8.8000       1.5556       2.4200   (    2)

W3                       11.      GRADE ELEVEN                  11.9000      2.3800       6.9805      48.7270   (    5)
   RGP                    4.      CAI YR 1, NON YR 2            11.9000      2.3800       6.9805      48.7270   (    5)

  TOTAL CASES =      244
MISSING CASES =      112 OR   45.9 PCT.
```

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TABLE A28

Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading in the Year 1 - Year 2 Longitudinal File
GAIN 4

```
- - - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    RG4        READING GAIN OVER SUMMER
    BROKEN DOWN BY    W3         GRADE LEVEL 81
                BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                   CODE     VALUE LABEL                  SUM          MEAN       STD DEV     VARIANCE        N

FOR ENTIRE POPULATION                                        -416.5000      -3.2795      11.6298     135.2516    (  127)


W3                          2.      GRADE TWO                 -84.2000      -4.9529      14.9684     224.0527    (   17)
  RGP                       2.      NON YR 1, NON YR 2        -38.5000      -3.2083      16.9803     288.3318    (   12)
  RGP                       3.      NON YR 1, CAI YR 2        -45.7000      -9.1400       8.6402      74.6530    (    5)

W3                          3.      GRADE THREE                -8.9000      -0.8091      11.7184     137.3209    (   11)
  RGP                       1.      CAI YR 1, CAI YR 2        -29.9000      -5.9800       5.2179      27.2270    (    5)
  RGP                       2.      NON YR 1, NON YR 2         21.0000       3.5000      14.2773     203.8399    (    6)

W3                          4.      GRADE FOUR               -183.8000      -5.9290      10.2529     105.1228    (   31)
  RGP                       1.      CAI YR 1, CAI YR 2       -174.4000      -7.5826       9.9186      98.3779    (   23)
  RGP                       2.      NON YR 1, NON YR 2         -9.4000      -1.1750      10.3211     106.5249    (    8)

W3                          5.      GRADE FIVE                -40.5000      -1.6200      12.3461     152.4257    (   25)
  RGP                       1.      CAI YR 1, CAI YR 2        -72.7000      -9.0875      12.7183     161.7554    (    8)
  RGP                       2.      NON YR 1, NON YR 2         32.2000       1.8941      10.8106     116.8680    (   17)

W3                          6.      GRADE SIX                  23.3000       1.9417       6.2376      38.9081    (   12)
  RGP                       1.      CAI YR 1, CAI YR 2          7.4000       0.9250       5.5350      30.6364    (    8)
  RGP                       2.      NON YR 1, NON YR 2         15.9000       3.9750       7.9315      62.9091    (    4)

W3                          7.      GRADE SEVEN               -43.0000      -3.0714       7.8924      62.2899    (   14)
  RGP                       1.      CAI YR 1, CAI YR 2        -43.0000      -3.0714       7.8924      62.2899    (   14)

W3                          8.      GRADE EIGHT                14.1000       3.5250      15.7699     248.6890    (    4)
  RGP                       2.      NON YR 1, NON YR 2         14.1000       3.5250      15.7699     248.6890    (    4)

W3                          9.      GRADE NINE                  5.7000       5.7000       0.0          0.0        (    1)
  RGP                       2.      NON YR 1, NON YR 2          5.7000       5.7000       0.0          0.0        (    1)

W3                         10.      GRADE TEN                 -75.4000     -10.7714      15.3029     234.1790    (    7)
  RGP                       1.      CAI YR 1, CAI YR 2        -24.9000     -12.4500      22.1324     489.8446    (    2)
  RGP                       2.      NON YR 1, NON YR 2        -38.1000     -12.7000      20.6899     428.0700    (    3)
  RGP                       4.      CAI YR 1, NON YR 2        -12.4000      -6.2000       0.7071       0.5000    (    2)

W3                         11.      GRADE ELEVEN              -23.8000      -4.7600      10.8928     118.6530    (    5)
  RGP                       4.      CAI YR 1, NON YR 2        -23.8000      -4.7600      10.8928     118.6530    (    5)

  TOTAL CASES =      244
MISSING CASES =      117 OR  48.0 PCT.
```

TABLE A29

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 1 - Year 2 Longitudinal File

GAIN 5

```
---------------------- DESCRIPTION OF SUBPOPULATIONS ----------------------
CRITERION VARIABLE  RG5      READING GAIN PRE YR2 TO POST YR2
    BROKEN DOWN BY  W3       GRADE LEVEL 81
                BY  RGP      READING TREATMENT GROUP
----------------------------------------------------------------------------

VARIABLE               CODE   VALUE LABEL                 SUM       MEAN     STD DEV    VARIANCE       N

FOR ENTIRE POPULATION                                  446.2999    3.3556    13.8273    191.1943   (  133)

W3                       2.   GRADE TWO                16.0000     0.9412   17.6346    310.9788   (   17)
   RGP                   2.   NON YR 1, NON YR 2       19.1000     1.5917   20.7255    429.5462   (   12)
   RGP                   3.   NON YR 1, CAI YR 2       -3.1000    -0.6200    7.6385     58.3470   (    5)

W3                       3.   GRADE THREE              34.8000     2.3200   23.1118    534.1544   (   15)
   RGP                   1.   CAI YR 1, CAI YR 2       22.0000     4.4000    8.4027     70.6050   (    5)
   RGP                   2.   NON YR 1, NON YR 2      -77.6000   -12.9333   27.3461    747.8104   (    6)
   RGP                   3.   NON YR 1, CAI YR 2       90.4000    22.6000   11.4595    131.3200   (    4)

W3                       4.   GRADE FOUR              145.8000     4.7032   10.5789    111.9123   (   31)
   RGP                   1.   CAI YR 1, CAI YR 2      143.8000     6.2522   10.9554    120.0199   (   23)
   RGP                   2.   NON YR 1, NON YR 2        2.0000     0.2500    8.4777     71.8714   (    6)

W3                       5.   GRADE FIVE              121.0599     4.6577   13.8110    190.7433   (   26)
   RGP                   1.   CAI YR 1, CAI YR 2      145.7000    16.1889   14.4364    208.4110   (    9)
   RGP                   2.   NON YR 1, NON YR 2      -24.6000    -1.4471    8.9129     79.4389   (   17)

W3                       6.   GRADE SIX                61.7000     5.1417    8.6885     75.4899   (   12)
   RGP                   1.   CAI YR 1, CAI YR 2       53.4000     6.6750   10.3503    107.1279   (    8)
   RGP                   2.   NON YR 1, NON YR 2        8.3000     2.0750    2.8324      8.0225   (    4)

W3                       7.   GRADE SEVEN             -17.0000    -1.2143    9.5287     90.7967   (   14)
   RGP                   1.   CAI YR 1, CAI YR 2      -17.0000    -1.2143    9.5287     90.7967   (   14)

W3                       8.   GRADE EIGHT              -7.1000    -1.7750    5.4310     29.4958   (    4)
   RGP                   2.   NON YR 1, NON YR 2       -7.1000    -1.7750    5.4310     29.4958   (    4)

W3                       9.   GRADE NINE               -2.6000    -2.6000    0.0         0.0       (    1)
   RGP                   2.   NON YR 1, NON YR 2       -2.6000    -2.6000    0.0         0.0       (    1)

W3                      10.   GRADE TEN                92.6000    11.5750    8.6382     74.6191   (    8)
   RGP                   1.   CAI YR 1, CAI YR 2       18.5000     9.2500    4.0305     16.2449   (    2)
   RGP                   2.   NON YR 1, NON YR 2       70.0000    17.5000    6.9943     48.9199   (    4)
   RGP                   4.   CAI YR 1, NON YR 2        4.1000     2.0500    5.1619     26.6450   (    2)

W3                      11.   GRADE ELEVEN              1.0000     0.2000   13.7755    189.7650   (    5)
   RGP                   4.   CAI YR 1, NON YR 2        1.0000     0.2000   13.7755    189.7650   (    5)

 TOTAL CASES =      244
MISSING CASES =     111 OR  45.5 PCT.
```

TABLE A30
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Mathematics in the Year 1 - Year 2 Longitudinal File
MATHEMATICS PRETEST YEAR 1

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    V35         MATH PRETEST NCE SCORE 80
    BROKEN DOWN BY    W3          GRADE LEVEL 81
                BY    MGP         MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE     VALUE LABEL                    SUM           MEAN         STD DEV       VARIANCE        N

FOR ENTIRE POPULATION                                         2961.9995       37.0250       13.2886       176.5869    (   80)

W3                        1.      GRADE ONE                     96.1000       24.0250       18.5241       343.1424    (    4)
   MGP                    2.      NON YR 1, NON YR 2            96.1000       24.0250       18.5241       343.1424    (    4)

W3                        2.      GRADE TWO                    488.5999       37.5846       15.6685       245.5031    (   13)
   MGP                    1.      CAI YR 1, CAI YR 2            99.0000       33.0000       22.4386       503.4901    (    3)
   MGP                    2.      NON YR 1, NON YR 2           266.1000       38.0143       12.4807       155.7681    (    7)
   MGP                    4.      CAI YR 1, NON YR 2           123.5000       41.1667       21.2321       450.8032    (    3)

W3                        3.      GRADE THREE                  349.6999       29.1417       16.7280       279.8244    (   12)
   MGP                    1.      CAI YR 1, CAI YR 2            13.1000       13.1000        0.0            0.0      (    1)
   MGP                    2.      NON YR 1, NON YR 2           292.9999       29.3000       17.0341       290.1599    (   10)
   MGP                    3.      NON YR 1, CAI YR 2            43.6000       43.6000        0.0            0.0      (    1)

W3                        4.      GRADE FOUR                   933.6998       35.9115       10.7852       116.3195    (   26)
   MGP                    1.      CAI YR 1, CAI YR 2           339.5999       33.9600       15.0517       226.5538    (   10)
   MGP                    2.      NON YR 1, NON YR 2           500.6999       35.7643        6.4421        41.5009    (   14)
   MGP                    3.      NON YR 1, CAI YR 2            93.4000       46.7000        7.6368        58.3200    (    2)

W3                        5.      GRADE FIVE                   608.6999       43.4786        6.0729        36.8803    (   14)
   MGP                    1.      CAI YR 1, CAI YR 2           124.2000       41.4000        6.6910        44.7700    (    3)
   MGP                    2.      NON YR 1, NON YR 2           445.4999       44.5500        6.1950        38.3783    (   10)
   MGP                    3.      NON YR 1, CAI YR 2            39.0000       39.0000        0.0            0.0      (    1)

W3                        6.      GRADE SIX                    485.2000       44.1091        9.5720        91.6229    (   11)
   MGP                    1.      CAI YR 1, CAI YR 2           402.6000       44.7333        9.8832        97.6775    (    9)
   MGP                    2.      NON YR 1, NON YR 2            82.6000       41.3000       10.7480       115.5200    (    2)

  TOTAL CASES =      254
MISSING CASES =      174 OR  68.5 PCT.
```

TABLE A31
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Mathematics in the Year 1 - Year 2 Longitudinal File
MATHEMATICS POST TEST YEAR 1

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - -
CRITERION VARIABLE   V37       MATH POSTTEST NCE SCORE 80
   BROKEN DOWN BY    W3        GRADE LEVEL 81
               BY    MGP       MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE      VALUE LABEL                 SUM         MEAN        STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                       3492.2996     49.1873     13.7738      189.7186      (    71)

W3                        1.       GRADE ONE                 217.0000     54.2500     15.0755      227.2700      (     4)
   MGP                    2.       NON YR 1, NON YR 2        217.0000     54.2500     15.0755      227.2700      (     4)
W3                        2.       GRADE TWO                 636.7999     48.9846     16.7680      281.1647      (    13)
   MGP                    1.       CAI YR 1, CAI YR 2        136.7000     45.5667     11.3738      129.3633      (     3)
   MGP                    2.       NON YR 1, NON YR 2        349.7000     49.9571     15.8652      251.7061      (     7)
   MGP                    4.       CAI YR 1, NON YR 2        150.4000     50.1333     27.9230      779.6932      (     3)
W3                        3.       GRADE THREE               574.1999     47.8500     14.0837      198.3500      (    12)
   MGP                    1.       CAI YR 1, CAI YR 2         29.1000     29.1000      0.0           0.0         (     1)
   MGP                    2.       NON YR 1, NON YR 2        496.2000     49.6200     14.1337      199.7618      (    10)
   MGP                    3.       NON YR 1, CAI YR 2         48.9000     48.9000      0.0           0.0         (     1)
W3                        4.       GRADE FOUR                895.1999     52.6588     17.5567      308.2389      (    17)
   MGP                    1.       CAI YR 1, CAI YR 2        521.5999     52.1600     21.8510      477.4672      (    10)
   MGP                    2.       NON YR 1, NON YR 2        264.0000     52.8000     12.4272      154.4350      (     5)
   MGP                    3.       NON YR 1, CAI YR 2        109.6000     54.8000      2.2627        5.1200      (     2)
W3                        5.       GRADE FIVE                612.1999     43.7286      8.1875       67.0345      (    14)
   MGP                    1.       CAI YR 1, CAI YR 2        120.8000     40.2667     11.3161      128.0532      (     3)
   MGP                    2.       NON YR 1, NON YR 2        452.3999     45.2400      7.7041       59.3538      (    10)
   MGP                    3.       NON YR 1, CAI YR 2         39.0000     39.0000      0.0           0.0         (     1)
W3                        6.       GRADE SIX                 556.8999     50.6273      6.8558       47.0022      (    11)
   MGP                    1.       CAI YR 1, CAI YR 2        457.8999     50.8778      7.4123       54.9420      (     9)
   MGP                    2.       NON YR 1, NON YR 2         99.0000     49.5000      5.2326       27.3801      (     2)
  TOTAL CASES =      254
MISSING CASES =      183 OR   72.0 PCT.
```

TABLE A32
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 1 - Year 2 Longitudinal File
MATHEMATICS PRETEST YEAR 2

```
- - - - - - - - - - - - - - - - - - D E S C R I P T I O N   O F   S U B P O P U L A T I O N S - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE  W35        MATH PRETEST NCE SCORE 81
    BROKEN DOWN BY  W3         GRADE LEVEL 81
                BY  MGP        MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                CODE     VALUE LABEL                        SUM           MEAN       STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                            3270.1995      42.4701      12.3796      153.2534    (    77)

W3                       1.      GRADE ONE                        128.2000      32.0500      10.7856      116.3300    (     4)
   MGP                   2.      NON YR 1, NON YR 2               128.2000      32.0500      10.7856      116.3300    (     4)

W3                       2.      GRADE TWO                        487.0999      40.5917      10.8331      117.3554    (    12)
   MGP                   1.      CAI YR 1, CAI YR 2               114.4000      38.1333       9.4085       89.6533    (     3)
   MGP                   2.      NON YR 1, NON YR 2               262.9000      43.8167      12.1261      147.0417    (     6)
   MGP                   4.      CAI YR 1, NON YR 2               109.8000      36.6000      11.1369      124.0300    (     3)

W3                       3.      GRADE THREE                      595.9999      49.6667       7.6512       58.5406    (    12)
   MGP                   1.      CAI YR 1, CAI YR 2                62.3000      62.3000       0.0           0.0      (     1)
   MGP                   2.      NON YR 1, NON YR 2               472.6999      47.2700       5.7587       33.1623    (    10)
   MGP                   3.      NON YR 1, CAI YR 2                61.0000      61.0000       0.0           0.0      (     1)

W3                       4.      GRADE FOUR                       966.0998      38.6440      12.7628      162.8901    (    25)
   MGP                   1.      CAI YR 1, CAI YR 2               388.0999      38.8100      12.6395      159.7566    (    10)
   MGP                   2.      NON YR 1, NON YR 2               548.8999      39.2071      13.5165      182.7500    (    14)
   MGP                   3.      NON YR 1, CAI YR 2                29.1000      29.1000       0.0           0.0      (     1)

W3                       5.      GRADE FIVE                       633.3999      48.7231      15.3870      236.7585    (    13)
   MGP                   1.      CAI YR 1, CAI YR 2               149.8000      49.9333      18.0056      324.2032    (     3)
   MGP                   2.      NON YR 1, NON YR 2               483.6000      48.3600      15.5884      242.9981    (    10)

W3                       6.      GRADE SIX                        459.3999      41.7636       7.9690       63.5045    (    11)
   MGP                   1.      CAI YR 1, CAI YR 2               388.5999      43.1778       7.8412       61.4845    (     9)
   MGP                   2.      NON YR 1, NON YR 2                70.8000      35.4000       6.6468       44.1799    (     2)

  TOTAL CASES =      254
MISSING CASES =      177 OR  69.7 PCT.
```

TABLE A33
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 1 - Year 2 Longitudinal File
MATHEMATICS POST TEST YEAR 2

```
------------------- D E S C R I P T I O N   O F   S U B P O P U L A T I O N S -------------------
CRITERION VARIABLE   W37      MATH POSTTEST NCE SCORE 81
   BROKEN DOWN BY    W3       GRADE LEVEL 81
               BY    MGP      MATHEMATICS TREATMENT GROUP
-------------------------------------------------------------------------------------------------

VARIABLE                    CODE   VALUE LABEL                  SUM        MEAN      STD DEV    VARIANCE       N

FOR ENTIRE POPULATION                                        3537.3996    47.8027    11.4861    131.9301  (   74)

W3                           1.    GRADE ONE                  119.7000    39.9000    15.7617    248.4300  (    3)
  MGP                        2.    NON YR 1, NON YR 2         119.7000    39.9000    15.7617    248.4300  (    3)

W3                           2.    GRADE TWO                  683.3000    52.5615    16.0865    258.7759  (   13)
  MGP                        1.    CAI YR 1, CAI YR 2         128.9000    42.9667    12.7442    162.4134  (    3)
  MGP                        2.    NON YR 1, NON YR 2         388.3000    55.4714    17.6233    310.5790  (    7)
  MGP                        4.    CAI YR 1, NON YR 2         166.1000    55.3667    16.7025    278.9733  (    3)

W3                           3.    GRADE THREE                553.7999    50.3454     9.5762     91.7027  (   11)
  MGP                        1.    CAI YR 1, CAI YR 2          45.8000    45.8000     0.0         0.0     (    1)
  MGP                        2.    NON YR 1, NON YR 2         442.3999    49.1555     9.0203     81.3053  (    9)
  MGP                        3.    NON YR 1, CAI YR 2          65.6000    65.6000     0.0         0.0     (    1)

W3                           4.    GRADE FOUR                1029.2999    46.7864    10.4093    108.3545  (   22)
  MGP                        1.    CAI YR 1, CAI YR 2         363.7000    51.9571    11.2973    127.6295  (    7)
  MGP                        2.    NON YR 1, NON YR 2         605.6999    43.2643     8.6686     75.1440  (   14)
  MGP                        3.    NON YR 1, CAI YR 2          59.9000    59.9000     0.0         0.0     (    1)

W3                           5.    GRADE FIVE                 666.9999    47.6429    10.6188    112.7596  (   14)
  MGP                        1.    CAI YR 1, CAI YR 2         144.1000    48.0333     9.9284     98.5734  (    3)
  MGP                        2.    NON YR 1, NON YR 2         485.2000    48.5200    11.3613    129.0796  (   10)
  MGP                        3.    NON YR 1, CAI YR 2          37.7000    37.7000     0.0         0.0     (    1)

W3                           6.    GRADE SIX                  484.2999    44.0273     7.9851     63.7622  (   11)
  MGP                        1.    CAI YR 1, CAI YR 2         396.5999    44.0667     8.3806     70.2375  (    9)
  MGP                        2.    NON YR 1, NON YR 2          87.7000    43.8500     8.6974     75.6450  (    2)

 TOTAL CASES =      254
MISSING CASES =     180 OR   70.9 PCT.
```

TABLE A34
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Mathematics in the Year 1 - Year 2 Longitudinal File
GAIN 1

```
- - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MG1       MATH GAIN PRE YR1 TO POST YR1
    BROKEN DOWN BY    W3        GRADE LEVEL 81
                BY    MGP       MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                     CODE      VALUE LABEL                    SUM          MEAN        STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                              859.1000      12.1000      15.4927      240.0234    (     71)


W3                             1.      GRADE ONE                   120.9000      30.2250       6.8344       46.7092   (      4)
   MGP                         2.      NON YR 1, NON YR 2          120.9000      30.2250       6.8344       46.7092   (      4)

W3                             2.      GRADE TWO                   148.2000      11.4000      16.9082      285.8883   (     13)
   MGP                         1.      CAI YR 1, CAI YR 2           37.7000      12.5667      28.8072      829.8533   (      3)
   MGP                         2.      NON YR 1, NON YR 2           83.6000      11.9429      14.6385      214.2861   (      7)
   MGP                         4.      CAI YR 1, NON YR 2           26.9000       8.9667      15.1876      230.6634   (      3)

W3                             3.      GRADE THREE                 224.5000      18.7083      13.2084      174.4626   (     12)
   MGP                         1.      CAI YR 1, CAI YR 2           16.0000      16.0000       0.0           0.0      (      1)
   MGP                         2.      NON YR 1, NON YR 2          203.2000      20.3200      13.7679      189.5551   (     10)
   MGP                         3.      NON YR 1, CAI YR 2            5.3000       5.3000       0.0           0.0      (      1)

W3                             4.      GRADE FOUR                  290.3000      17.0765      18.0960      327.4657   (     17)
   MGP                         1.      CAI YR 1, CAI YR 2          182.0000      18.2000      22.8426      521.7846   (     10)
   MGP                         2.      NON YR 1, NON YR 2           92.1000      18.4200       8.1023       65.6471   (      5)
   MGP                         3.      NON YR 1, CAI YR 2           16.2000       8.1000       9.8995       98.0000   (      2)

W3                             5.      GRADE FIVE                    3.5000       0.2500       6.9801       48.7211   (     14)
   MGP                         1.      CAI YR 1, CAI YR 2           -3.4000      -1.1333       4.6801       21.9033   (      3)
   MGP                         2.      NON YR 1, NON YR 2            6.9000       0.6900       8.0404       64.6476   (     10)
   MGP                         3.      NON YR 1, CAI YR 2            0.0          0.0          0.0           0.0      (      1)

W3                             6.      GRADE SIX                    71.7000       6.5182       9.2996       86.4817   (     11)
   MGP                         1.      CAI YR 1, CAI YR 2           55.3000       6.1444      10.1703      103.4353   (      9)
   MGP                         2.      NON YR 1, NON YR 2           16.4000       8.2000       5.5154       30.4199   (      2)

  TOTAL CASES =       254
MISSING CASES =       183 OR  72.0 PCT.
```

TABLE A35

Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Mathematics in the Year 1 - Year 2 Longitudinal File
GAIN 2

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MG2        MATH GAIN PRE YR1 TO PRE YR2
     BROKEN DOWN BY   W3         GRADE LEVEL 81
                 BY   MGP        MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE      VALUE LABEL                         SUM          MEAN        STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                              426.5000        5.5390        15.7498      248.0574    (    77)

W3                         1.       GRADE ONE                       32.1000        8.0250        24.6363      606.9492    (     4)
    MGP                    2.       NON YR 1, NON YR 2              32.1000        8.0250        24.6363      606.9492    (     4)

W3                         2.       GRADE TWO                       25.7000        2.1417        16.4715      271.3117    (    12)
    MGP                    1.       CAI YR 1, CAI YR 2              15.4000        5.1333        18.3211      335.6634    (     3)
    MGP                    2.       NON YR 1, NON YR 2              24.0000        4.0000         6.9085       47.7280    (     6)
    MGP                    4.       CAI YR 1, NON YR 2             -13.7000       -4.5667        30.7562      945.9430    (     3)

W3                         3.       GRADE THREE                    246.2999       20.5250        18.0904      327.2637    (    12)
    MGP                    1.       CAI YR 1, CAI YR 2              49.2000       49.2000         0.0           0.0       (     1)
    MGP                    2.       NON YR 1, NON YR 2             179.7000       17.9700        17.3288      300.2889    (    10)
    MGP                    3.       NON YR 1, CAI YR 2              17.4000       17.4000         0.0           0.0       (     1)

W3                         4.       GRADE FOUR                      84.5000        3.3800        11.7140      137.2167    (    25)
    MGP                    1.       CAI YR 1, CAI YR 2              46.5000        4.6500         9.3391       87.2184    (    10)
    MGP                    2.       NON YR 1, NON YR 2              48.2000        3.4429        13.1376      172.6027    (    14)
    MGP                    3.       NON YR 1, CAI YR 2             -12.2000      -12.2000         0.0           0.0       (     1)

W3                         5.       GRADE FIVE                      63.7000        4.9000        14.2055      201.7950    (    13)
    MGP                    1.       CAI YR 1, CAI YR 2              25.6000        8.5333        13.0040      169.1034    (     3)
    MGP                    2.       NON YR 1, NON YR 2              38.1000        3.8100        15.0253      225.7610    (    10)

W3                         6.       GRADE SIX                      -25.8000       -2.3455        10.3375      106.8607    (    11)
    MGP                    1.       CAI YR 1, CAI YR 2             -14.0000       -1.5556        11.2966      127.6127    (     9)
    MGP                    2.       NON YR 1, NON YR 2             -11.8000       -5.9000         4.1012       16.8200    (     2)

  TOTAL CASES =       254
MISSING CASES =       177 OR   69.7 PCT.
```

TABLE A36

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 1 - Year 2 Longitudinal File

GAIN 3

```
- - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE   MG3        MATH GAIN PRE YR1 TO POST YR2
   BROKEN DOWN BY    W3         GRADE LEVEL 81
               BY    MGP        MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE    VALUE LABEL                    SUM          MEAN       STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                        730.0000       9.8649      14.9502      223.5100   (   74)

W3                         1.    GRADE ONE                    24.6000       8.2000      25.9189      671.7902   (    3)
   MGP                     2.    NON YR 1, NON YR 2           24.6000       8.2000      25.9189      671.7902   (    3)

W3                         2.    GRADE TWO                   194.7000      14.9769      19.6358      385.5635   (   13)
   MGP                     1.    CAI YR 1, CAI YR 2           29.9000       9.9667      31.0919      966.7034   (    3)
   MGP                     2.    NON YR 1, NON YR 2          122.2000      17.4571      13.0072      142.2995   (    7)
   MGP                     4.    CAI YR 1, NON YR 2           42.6000      14.2000      26.6400      709.6897   (    3)

W3                         3.    GRADE THREE                 231.3000      21.0273      15.2245      231.7842   (   11)
   MGP                     1.    CAI YR 1, CAI YR 2           32.7000      32.7000       0.0           0.0      (    1)
   MGP                     2.    NON YR 1, NON YR 2          176.6000      19.6222      16.4426      270.3545   (    9)
   MGP                     3.    NON YR 1, CAI YR 2           22.0000      22.0000       0.0           0.0      (    1)

W3                         4.    GRADE FOUR                  222.0000      10.0909      10.7896      116.4161   (   22)
   MGP                     1.    CAI YR 1, CAI YR 2          109.2000      15.6000      11.8564      140.5734   (    7)
   MGP                     2.    NON YR 1, NON YR 2          105.0000       7.5000       9.9600       99.2015   (   14)
   MGP                     3.    NON YR 1, CAI YR 2            7.8000       7.8000       0.0           0.0      (    1)

W3                         5.    GRADE FIVE                   58.3000       4.1643       8.7610       76.7540   (   14)
   MGP                     1.    CAI YR 1, CAI YR 2           19.9000       6.6333      11.9358      142.4634   (    3)
   MGP                     2.    NON YR 1, NON YR 2           39.7000       3.9700       8.5917       73.8179   (   10)
   MGP                     3.    NON YR 1, CAI YR 2           -1.3000      -1.3000       0.0           0.0      (    1)

W3                         6.    GRADE SIX                    -0.9000      -0.0818      11.4999      132.2475   (   11)
   MGP                     1.    CAI YR 1, CAI YR 2           -6.0000      -0.6667      12.7541      162.6674   (    9)
   MGP                     2.    NON YR 1, NON YR 2            5.1000       2.5500       2.0506        4.2050   (    2)

  TOTAL CASES =      254
MISSING CASES =      180 OR  70.9 PCT.
```

TABLE A57

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 1 - Year 2 Longitudinal File

GAIN 4

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   MG4         MATH GAIN OVER SUMMER
    BROKEN DOWN BY   W3          GRADE LEVEL 81
                BY   MGP         MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE      VALUE LABEL                      SUM          MEAN       STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                             -447.8000      -6.5853      18.5300      343.3613   (    68)

W3                            1.      GRADE ONE                    -88.8000     -22.2000      19.8163      392.6866   (     4)
  MGP                         2.      NON YR 1, NON YR 2           -88.8000     -22.2000      19.8163      392.6866   (     4)

W3                            2.      GRADE TWO                   -112.0000      -9.3333      20.9212      437.6969   (    12)
  MGP                         1.      CAI YR 1, CAI YR 2           -22.3000      -7.4333      10.5510      111.3233   (     3)
  MGP                         2.      NON YR 1, NON YR 2           -49.1000      -8.1833      17.1775      295.0650   (     6)
  MGP                         4.      CAI YR 1, NON YR 2           -40.6000     -13.5333      39.0193     1522.5030   (     3)

W3                            3.      GRADE THREE                   21.8000       1.8167      18.5652      344.6652   (    12)
  MGP                         1.      CAI YR 1, CAI YR 2            33.2000      33.2000       0.0           0.0     (     1)
  MGP                         2.      NON YR 1, NON YR 2           -23.5000      -2.3500      16.7566      280.7820   (    10)
  MGP                         3.      NON YR 1, CAI YR 2            12.1000      12.1000       0.0           0.0     (     1)

W3                            4.      GRADE FOUR                  -231.5000     -14.4687      19.9670      398.6811   (    16)
  MGP                         1.      CAI YR 1, CAI YR 2          -133.5000     -13.3500      22.7716      518.5452   (    10)
  MGP                         2.      NON YR 1, NON YR 2           -70.7000     -14.1400      16.8494      283.9031   (     5)
  MGP                         3.      NON YR 1, CAI YR 2           -27.3000     -27.3000       0.0           0.0     (     1)

W3                            5.      GRADE FIVE                    60.2000       4.6308      13.0669      170.7473   (    13)
  MGP                         1.      CAI YR 1, CAI YR 2            29.0000       9.6667      11.5794      134.0833   (     3)
  MGP                         2.      NON YR 1, NON YR 2            31.2000       3.1200      13.6727      186.9439   (    10)

W3                            6.      GRADE SIX                    -97.5000      -8.8636       7.6908       59.1486   (    11)
  MGP                         1.      CAI YR 1, CAI YR 2           -69.3000      -7.7000       8.0813       65.3075   (     9)
  MGP                         2.      NON YR 1, NON YR 2           -28.2000     -14.1000       1.4142        2.0000   (     2)

  TOTAL CASES =       254
MISSING CASES =       186 OR  73.2 PCT.
```

TABLE A38
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 1 - Year 2 Longitudinal File
GAIN 5

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE   MG5       MATH GAIN PRE YR2 TO POST YR2
    BROKEN DOWN BY   M3        GRADE LEVEL 81
                BY   MGP       MATHEMATICS TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                   CODE      VALUE LABEL                     SUM          MEAN       STD DEV      VARIANCE         N

FOR ENTIRE POPULATION                                              349.2001       4.9183      12.2860      150.9456    (   71)


M3                          1.       GRADE ONE                      31.6000      10.5333      11.3500      128.8232    (    3)
   MGP                      2.       NON YR 1, NON YR 2             31.6000      10.5333      11.3500      128.8232    (    3)

M3                          2.       GRADE TWO                     169.0000      14.0833      14.6809      215.5266    (   12)
   MGP                      1.       CAI YR 1, CAI YR 2             14.5000       4.8333      12.8722      165.6933    (    3)
   MGP                      2.       NON YR 1, NON YR 2             98.2000      16.3667      16.2735      264.8266    (    6)
   MGP                      4.       CAI YR 1, NON YR 2             56.3000      18.7667      13.4448      180.7634    (    3)

M3                          3.       GRADE THREE                    -0.9000      -0.0818      10.6795      114.0517    (   11)
   MGP                      1.       CAI YR 1, CAI YR 2            -16.5000     -16.5000       0.0           0.0       (    1)
   MGP                      2.       NON YR 1, NON YR 2             11.0000       1.2222      10.2087      104.2176    (    9)
   MGP                      3.       NON YR 1, CAI YR 2              4.6000       4.6000       0.0           0.0       (    1)

M3                          4.       GRADE FOUR                    128.7000       6.1286      12.3477      152.4662    (   21)
   MGP                      1.       CAI YR 1, CAI YR 2             71.9000      10.2714      10.3556      107.2390    (    7)
   MGP                      2.       NON YR 1, NON YR 2             56.8000       4.0571      13.0846      171.2058    (   14)

M3                          5.       GRADE FIVE                     -4.1000      -0.3154      11.7565      138.2146    (   13)
   MGP                      1.       CAI YR 1, CAI YR 2             -5.7000      -1.9000      14.8704      221.1298    (    3)
   MGP                      2.       NON YR 1, NON YR 2              1.6000       0.1600      11.5783      134.0561    (   10)

M3                          6.       GRADE SIX                      24.9000       2.2636       4.9738       24.7385    (   11)
   MGP                      1.       CAI YR 1, CAI YR 2              8.0000       0.8889       4.3248       18.7036    (    9)
   MGP                      2.       NON YR 1, NON YR 2             16.9000       8.4500       2.0506        4.2050    (    2)

  TOTAL CASES =       254
MISSING CASES =       183 OR  72.0 PCT.
```

TABLE A39
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File
READING PRETEST Year 2

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE    W31        READING PRETEST NCE SCORE 81
    BROKEN DOWN BY    X3         GRADE LEVEL 82
                BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE     VALUE LABEL                      SUM          MEAN       STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                         3793.5995       39.5167       11.4256       130.5433   (    96)


X3                         2.     GRADE TWO                    461.3999       41.9454       17.3635       301.4907   (    11)
   RGP                     2.     NON YR 2, NON YR 3           356.2000       50.8857       12.2368       149.7398   (     7)
   RGP                     3.     NON YR 2, CAI YR 3             6.7000        6.7000        0.0            0.0     (     1)
   RGP                     4.     CAI YR 2, NON YR 3            98.5000       32.8333        5.9181        35.0234   (     3)

X3                         3.     GRADE THREE                 1092.3999       43.6960        9.4134        88.6121   (    25)
   RGP                     1.     CAI YR 2, CAI YR 3           618.7999       44.2000        9.0756        82.3661   (    14)
   RGP                     2.     NON YR 2, NON YR 3           395.8000       43.9778       11.1475       124.2670   (     9)
   RGP                     3.     NON YR 2, CAI YR 3            77.8000       38.9000        3.3941        11.5199   (     2)

X3                         4.     GRADE FOUR                   925.4999       42.0682       10.8003       116.6461   (    22)
   RGP                     1.     CAI YR 2, CAI YR 3           413.9999       41.4000        8.7807        77.1000   (    10)
   RGP                     2.     NON YR 2, NON YR 3           300.1000       37.5125       11.7474       138.0012   (     8)
   RGP                     3.     NON YR 2, CAI YR 3            63.5000       63.5000        0.0            0.0     (     1)
   RGP                     4.     CAI YR 2, NON YR 3           147.9000       49.3000        1.2124         1.4700   (     3)

X3                         5.     GRADE FIVE                   776.8999       35.3136        7.5248        56.6231   (    22)
   RGP                     1.     CAI YR 2, CAI YR 3           252.7000       31.5875        8.3065        68.9984   (     8)
   RGP                     2.     NON YR 2, NON YR 3           396.0999       36.0091        4.9320        24.3309   (    11)
   RGP                     4.     CAI YR 2, NON YR 3           128.1000       42.7000        9.5582        91.3600   (     3)

X3                         6.     GRADE SIX                    476.8999       36.6846        8.1404        66.2651   (    13)
   RGP                     1.     CAI YR 2, CAI YR 3           212.7000       35.4500       12.1512       147.6510   (     6)
   RGP                     2.     NON YR 2, NON YR 3           264.2000       37.7429        2.6176         6.8518   (     7)

X3                        11.     GRADE ELEVEN                  59.5000       29.7500        3.6062        13.0050   (     2)
   RGP                     1.     CAI YR 2, CAI YR 3            27.2000       27.2000        0.0            0.0     (     1)
   RGP                     3.     NON YR 2, CAI YR 3            32.3000       32.3000        0.0            0.0     (     1)

X3                        12.     GRADE TWELVE                   1.0000        1.0000        0.0            0.0     (     1)
   RGP                     1.     CAI YR 2, CAI YR 3             1.0000        1.0000        0.0            0.0     (     1)

  TOTAL CASES =        162
MISSING CASES =         66 OR  40.7 PCT.
```

TABLE A40
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading in the Year 2 - Year 3 Longitudinal File
READING POST TEST Year 2

```
- - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE    #33        READING POSTTEST NCE SCORE 81
    BROKEN DOWN BY    X3         GRADE LEVEL 82
                BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE    VALUE LABEL                     SUM          MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                          3929.5995     41.8042      13.7873      190.0896    (    94)

X3                          2.    GRADE TWO                     406.8999     36.9909      15.7720      248.7549    (    11)
   RGP                      2.    NON YR 2, NON YR 3            285.6999     40.8143      17.3704      301.7315    (     7)
   RGP                      3.    NON YR 2, CAI YR 3             35.1000     35.1000       0.0           0.0      (     1)
   RGP                      4.    CAI YR 2, NON YR 3             86.1000     28.7000      13.5100      182.5200    (     3)

X3                          3.    GRADE THREE                  1243.2999     51.8042      15.6343      244.4308    (    24)
   RGP                      1.    CAI YR 2, CAI YR 3            699.3999     53.8000      17.6129      310.2149    (    13)
   RGP                      2.    NON YR 2, NON YR 3            460.1999     51.1333      14.2701      203.6350    (     9)
   RGP                      3.    NON YR 2, CAI YR 3             83.7000     41.8500       4.0305       16.2450    (     2)

X3                          4.    GRADE FOUR                    926.1999     44.1048       8.5960       73.8915    (    21)
   RGP                      1.    CAI YR 2, CAI YR 3            435.5999     43.5600       7.7482       60.0249    (    10)
   RGP                      2.    NON YR 2, NON YR 3            345.9000     43.2375      11.0625      122.3827    (     8)
   RGP                      3.    NON YR 2, CAI YR 3             46.8000     46.8000       0.0           0.0      (     1)
   RGP                      4.    CAI YR 2, NON YR 3             97.9000     48.9500       3.0406        9.2450    (     2)

X3                          5.    GRADE FIVE                    802.3999     36.4727       7.6393       58.3592    (    22)
   RGP                      1.    CAI YR 2, CAI YR 3            293.0999     36.6375       8.9297       79.7378    (     8)
   RGP                      2.    NON YR 2, NON YR 3            384.2000     34.9273       7.3984       54.7362    (    11)
   RGP                      4.    CAI YR 2, NON YR 3            125.1000     41.7000       2.4021        5.7700    (     3)

X3                          6.    GRADE SIX                     483.2999     37.1769      11.3566      128.9770    (    13)
   RGP                      1.    CAI YR 2, CAI YR 3            240.2000     40.0333      14.9946      224.8350    (     6)
   RGP                      2.    NON YR 2, NON YR 3            243.1000     34.7286       7.4455       55.4357    (     7)

X3                         11.    GRADE ELEVEN                   54.4000     27.2000      19.9404      397.6197    (     2)
   RGP                      1.    CAI YR 2, CAI YR 3             13.1000     13.1000       0.0           0.0      (     1)
   RGP                      3.    NON YR 2, CAI YR 3             41.3000     41.3000       0.0           0.0      (     1)

X3                         12.    GRADE TWELVE                   13.1000     13.1000       0.0           0.0      (     1)
   RGP                      1.    CAI YR 2, CAI YR 3             13.1000     13.1000       0.0           0.0      (     1)

  TOTAL CASES =      162
MISSING CASES =       68 OR  42.0 PCT.
```

TABLE A41
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File
READING PRETEST Year 3

```
-------------------  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  ---------------------
CRITERION VARIABLE    X31       READING PRETEST NCE SCORE 82
   BROKEN DOWN BY     X3        GRADE LEVEL 82
               BY     RGP       READING TREATMENT GROUP
------------------------------------------------------------------------------------------------------

VARIABLE                  CODE   VALUE LABEL                 SUM          MEAN       STD DEV      VARIANCE       N

FOR ENTIRE POPULATION                                     3606.4994     37.5677     12.0914     146.2022   (    96)


X3                         2.    GRADE TWO                 521.9999     47.4545     10.9360     119.5967   (    11)
   RGP                     2.    NON YR 2, NON YR 3        327.4000     46.7714     11.7257     137.4924   (     7)
   RGP                     3.    NON YR 2, CAI YR 3         33.7000     33.7000      0.0          0.0      (     1)
   RGP                     4.    CAI YR 2, NON YR 3        160.9000     53.6333      5.6580      32.0133   (     3)

X3                         3.    GRADE THREE              1034.1999     41.3680     10.6446     113.3073   (    25)
   RGP                     1.    CAI YR 2, CAI YR 3        598.7999     42.7714      8.9242      79.6407   (    14)
   RGP                     2.    NON YR 2, NON YR 3        378.0000     42.0000     12.5844     158.3675   (     9)
   RGP                     3.    NON YR 2, CAI YR 3         57.4000     28.7000      8.0610      64.9799   (     2)

X3                         4.    GRADE FOUR                842.6999     38.3045      9.3136      86.7462   (    22)
   RGP                     1.    CAI YR 2, CAI YR 3        399.6999     39.9700      5.4074      29.2401   (    10)
   RGP                     2.    NON YR 2, NON YR 3        280.3000     35.0375     13.4720     181.4941   (     8)
   RGP                     3.    NON YR 2, CAI YR 3         50.0000     50.0000      0.0          0.0      (     1)
   RGP                     4.    CAI YR 2, NON YR 3        112.7000     37.5667      4.2724      18.2534   (     3)

X3                         5.    GRADE FIVE                686.8998     31.2227     11.4626     131.3495   (    22)
   RGP                     1.    CAI YR 2, CAI YR 3       •242.2999     30.2875      6.7626      45.7327   (     8)
   RGP                     2.    NON YR 2, NON YR 3        308.3999     28.0364     13.1213     172.1686   (    11)
   RGP                     4.    CAI YR 2, NON YR 3        136.2000     45.4000      1.6371       2.6800   (     3)

X3                         6.    GRADE SIX                 461.7999     35.5231     11.1925     125.2686   (    13)
   RGP                     1.    CAI YR 2, CAI YR 3        212.5999     35.4333     13.4945     182.1027   (     6)
   RGP                     2.    NON YR 2, NON YR 3        249.2000     35.6000      9.9385      98.7701   (     7)

X3                        11.    GRADE ELEVEN               57.9000     28.9500      2.4749       6.1250   (     2)
   RGP                     1.    CAI YR 2, CAI YR 3         30.7000     30.7000      0.0          0.0      (     1)
   RGP                     3.    NON YR 2, CAI YR 3         27.2000     27.2000      0.0          0.0      (     1)

X3                        12.    GRADE TWELVE                1.0000      1.0000      0.0          0.0      (     1)
   RGP                     1.    CAI YR 2, CAI YR 3          1.0000      1.0000      0.0          0.0      (     1)

  TOTAL CASES =        162
MISSING CASES =         66 OR  40.7 PCT.
```

TABLE A42

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File

READING POST TEST Year 3

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE    X33        READING POSTTEST NCE SCORE 82
   BROKEN DOWN BY     X3         GRADE LEVEL 82
               BY     RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE    VALUE LABEL                      SUM          MEAN        STD DEV      VARIANCE       N

FOR ENTIRE POPULATION                                            3906.6994      42.9308      12.7911      163.6133   (   91)

X3                            2.    GRADE TWO                     526.8999      47.9000      15.1374      229.1426   (   11)
   RGP                        2.    NON YR 2, NON YR 3            338.0000      48.2857      11.2615      126.8214   (    7)
   RGP                        3.    NON YR 2, CAI YR 3             17.3000      17.3000       0.0           0.0     (    1)
   RGP                        4.    CAI YR 2, NON YR 3            171.6000      57.2000      12.9155      166.8100   (    3)

X3                            3.    GRADE THREE                  1210.4998      48.4200      13.4107      179.8459   (   25)
   RGP                        1.    CAI YR 2, CAI YR 3            717.3999      51.2429      15.8372      250.8181   (   14)
   RGP                        2.    NON YR 2, NON YR 3            415.2999      46.1444       9.4430       89.1703   (    9)
   RGP                        3.    NON YR 2, CAI YR 3             77.8000      38.9000       1.6971        2.8800   (    2)

X3                            4.    GRADE FOUR                    856.9999      38.9545       8.7714       76.9369   (   22)
   RGP                        1.    CAI YR 2, CAI YR 3            430.4999      43.0500       4.0087       16.0694   (   10)
   RGP                        2.    NON YR 2, NON YR 3            256.4000      32.0500       7.6081       57.8828   (    8)
   RGP                        3.    NON YR 2, CAI YR 3             61.0000      61.0000       0.0           0.0     (    1)
   RGP                        4.    CAI YR 2, NON YR 3            109.1000      36.3667       2.3094        5.3333   (    3)

X3                            5.    GRADE FIVE                    717.3999      39.8555      11.9593      143.0238   (   18)
   RGP                        1.    CAI YR 2, CAI YR 3            249.9000      41.6500      11.1525      124.3790   (    6)
   RGP                        2.    NON YR 2, NON YR 3            380.5999      38.0600      13.7627      189.4020   (   10)
   RGP                        4.    CAI YR 2, NON YR 3             86.9000      43.4500       4.7376       22.4450   (    2)

X3                            6.    GRADE SIX                     525.3999      43.7833       6.8117       46.3997   (   12)
   RGP                        1.    CAI YR 2, CAI YR 3            238.2000      47.6400       6.9934       48.9080   (    5)
   RGP                        2.    NON YR 2, NON YR 3            287.2000      41.0286       5.5866       31.2123   (    7)

X3                           11.    GRADE ELEVEN                   68.5000      34.2500       9.9702       99.4049   (    2)
   RGP                        1.    CAI YR 2, CAI YR 3             27.2000      27.2000       0.0           0.0     (    1)
   RGP                        3.    NON YR 2, CAI YR 3             41.3000      41.3000       0.0           0.0     (    1)

X3                           12.    GRADE TWELVE                    1.0000       1.0000       0.0           0.0     (    1)
   RGP                        1.    CAI YR 2, CAI YR 3              1.0000       1.0000       0.0           0.0     (    1)

  TOTAL CASES =      162
MISSING CASES =       71 OR  43.8 PCT.
```

TABLE A43
Descriptive Statistics for NCB Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File
GAIN 1

```
- - - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   RG1        READING GAIN PRE YR2 TO POST YR2
   BROKEN DOWN BY    X3         GRADE LEVEL 82
               BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE     VALUE LABEL                    SUM          MEAN       STD DEV      VARIANCE         N

FOR ENTIRE POPULATION                                         226.3999       2.4085     12.1829      148.4231    (    94)

X3                         2.     GRADE TWO                   -54.5000      -4.9545     17.9220      321.1980    (    11)
   RGP                     2.     NON YR 2, NON YR 3          -70.5000     -10.0714     14.0059      196.4124    (     7)
   RGP                     3.     NON YR 2, CAI YR 3           28.4000      28.4000      0.0           0.0       (     1)
   RGP                     4.     CAI YR 2, NON YR 3          -12.4000      -4.1333     19.0222      361.8433    (     3)

X3                         3.     GRADE THREE                 193.4000       8.0583     14.3652      206.3590    (    24)
   RGP                     1.     CAI YR 2, CAI YR 3          123.1000       9.4692     17.2400      297.2190    (    13)
   RGP                     2.     NON YR 2, NON YR 3           64.4000       7.1556     11.3768      129.4377    (     9)
   RGP                     3.     NON YR 2, CAI YR 3            5.9000       2.9500      7.4246       55.1248    (     2)

X3                         4.     GRADE FOUR                   48.6000       2.3143      9.0413       81.7443    (    21)
   RGP                     1.     CAI YR 2, CAI YR 3           21.6000       2.1600      7.0491       49.6893    (    10)
   RGP                     2.     NON YR 2, NON YR 3           45.8000       5.7250     10.0068      100.1365    (     8)
   RGP                     3.     NON YR 2, CAI YR 3          -16.7000     -16.7000      0.0           0.0       (     1)
   RGP                     4.     CAI YR 2, NON YR 3           -2.1000      -1.0500      3.0406        9.2450    (     2)

X3                         5.     GRADE FIVE                   25.5000       1.1591      8.2444       67.9701    (    22)
   RGP                     1.     CAI YR 2, CAI YR 3           40.4000       5.0500      9.3871       88.1171    (     8)
   RGP                     2.     NON YR 2, NON YR 3          -11.9000      -1.0818      6.5606       43.0436    (    11)
   RGP                     4.     CAI YR 2, NON YR 3           -3.0000      -1.0000      9.7412       94.8901    (     3)

X3                         6.     GRADE SIX                     6.4000       0.4923      8.7950       77.3524    (    13)
   RGP                     1.     CAI YR 2, CAI YR 3           27.5000       4.5833      7.3982       54.7337    (     6)
   RGP                     2.     NON YR 2, NON YR 3          -21.1000      -3.0143      8.8324       78.0115    (     7)

X3                        11.     GRADE ELEVEN                 -5.1000      -2.5500     16.3342      266.8049    (     2)
   RGP                     1.     CAI YR 2, CAI YR 3          -14.1000     -14.1000      0.0           0.0       (     1)
   RGP                     3.     NON YR 2, CAI YR 3            9.0000       9.0000      0.0           0.0       (     1)

X3                        12.     GRADE TWELVE                 12.1000      12.1000      0.0           0.0       (     1)
   RGP                     1.     CAI YR 2, CAI YR 3           12.1000      12.1000      0.0           0.0       (     1)

  TOTAL CASES =       162
MISSING CASES =        68 OR  42.0 PCT.
```

TABLE A44

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File

GAIN 2

```
- - - - - - - - - - - - - - - - - -   D E S C R I P T I O N   O F   S U B P O P U L A T I O N S   - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    RG2        READING GAIN PRE YR2 TO PRE YR3
   BROKEN DOWN BY     X3         GRADE LEVEL 82
               BY     RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE               CODE    VALUE LABEL                    SUM          MEAN       STD DEV     VARIANCE        N

FOR ENTIRE POPULATION                                     -187.1001       -1.9490     12.1765     148.2071    (    96)


X3                      2.     GRADE TWO                    60.6000        5.5091     21.3446     455.5906    (    11)
   RGP                  2.     NON YR 2, NON YR 3          -28.8000       -4.1143     20.5175     420.9681    (     7)
   RGP                  3.     NON YR 2, CAI YR 3           27.0000       27.0000      0.0          0.0      (     1)
   RGP                  4.     CAI YR 2, NON YR 3           62.4000       20.8000     10.4532     109.2700    (     3)

X3                      3.     GRADE THREE                 -58.2000       -2.3280     10.6457     113.3313    (    25)
   RGP                  1.     CAI YR 2, CAI YR 3          -20.0000       -1.4286     10.8409     117.0591    (    14)
   RGP                  2.     NON YR 2, NON YR 3          -17.8000       -1.9778     10.7371     115.2844    (     9)
   RGP                  3.     NON YR 2, CAI YR 3          -20.4000      -10.2000     11.4551     131.2197    (     2)

X3                      4.     GRADE FOUR                  -82.8000       -3.7636      8.4384      71.2063    (    22)
   RGP                  1.     CAI YR 2, CAI YR 3          -14.3000       -1.4300      7.0401      49.5624    (    10)
   RGP                  2.     NON YR 2, NON YR 3          -19.8000       -2.4750      9.7621      95.2993    (     8)
   RGP                  3.     NON YR 2, CAI YR 3          -13.5000      -13.5000      0.0          0.0      (     1)
   RGP                  4.     CAI YR 2, NON YR 3          -35.2000      -11.7333      3.8136      14.5434    (     3)

X3                      5.     GRADE FIVE                  -90.0000       -4.0909     12.1430     147.4532    (    22)
   RGP                  1.     CAI YR 2, CAI YR 3          -10.4000       -1.3000     10.9922     120.8285    (     8)
   RGP                  2.     NON YR 2, NON YR 3          -87.7000       -7.9727     13.2136     174.5982    (    11)
   RGP                  4.     CAI YR 2, NON YR 3            8.1000        2.7000      8.3163      69.1601    (     3)

X3                      6.     GRADE SIX                   -15.1000       -1.1615     10.7136     114.7809    (    13)
   RGP                  1.     CAI YR 2, CAI YR 3           -0.1000       -0.0167     11.4302     130.6497    (     6)
   RGP                  2.     NON YR 2, NON YR 3          -15.0000       -2.1429     10.8744     118.2529    (     7)

X3                     11.     GRADE ELEVEN                 -1.6000       -0.8000      6.0811      36.9799    (     2)
   RGP                  1.     CAI YR 2, CAI YR 3            3.5000        3.5000      0.0          0.0      (     1)
   RGP                  3.     NON YR 2, CAI YR 3           -5.1000       -5.1000      0.0          0.0      (     1)

X3                     12.     GRADE TWELVE                  0.0           0.0         0.0          0.0      (     1)
   RGP                  1.     CAI YR 2, CAI YR 3            0.0           0.0         0.0          0.0      (     1)

  TOTAL CASES =       162
MISSING CASES =        66 OR  40.7 PCT.
```

TABLE A45
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File
GAIN 3

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE   RG3      READING GAIN PRE YR2 TO POST YR3
    BROKEN DOWN BY   X3       GRADE LEVEL 82
                BY   RGP      READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE    VALUE LABEL                       SUM         MEAN       STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                            270.0999      2.9681      12.8370      164.7877   (    91)

X3                          2.    GRADE TWO                       65.5000      5.9545      18.5780      345.1427   (    11)
   RGP                      2.    NON YR 2, NON YR 3             -18.2000     -2.6000      14.7160      216.5599   (     7)
   RGP                      3.    NON YR 2, CAI YR 3              10.6000     10.6000       0.0           0.0      (     1)
   RGP                      4.    CAI YR 2, NON YR 3              73.1000     24.3667      17.3379      300.6035   (     3)

X3                          3.    GRADE THREE                    118.1000      4.7240      14.5316      211.1669   (    25)
   RGP                      1.    CAI YR 2, CAI YR 3              98.6000      7.0429      16.1430      260.5565   (    14)
   RGP                      2.    NON YR 2, NON YR 3              19.5000      2.1667      13.5811      184.4450   (     9)
   RGP                      3.    NON YR 2, CAI YR 3               0.0         0.0          5.0912       25.9199   (     2)

X3                          4.    GRADE FOUR                     -68.5000     -3.1136      10.2538      105.1402   (    22)
   RGP                      1.    CAI YR 2, CAI YR 3              16.5000      1.6500       7.3754       54.3961   (    10)
   RGP                      2.    NON YR 2, NON YR 3             -43.7000     -5.4625      12.8467      165.0369   (     8)
   RGP                      3.    NON YR 2, CAI YR 3              -2.5000     -2.5000       0.0           0.0      (     1)
   RGP                      4.    CAI YR 2, NON YR 3             -38.8000    -12.9333       1.0970        1.2033   (     3)

X3                          5.    GRADE FIVE                      66.8000      3.7111      11.0368      121.8115   (    18)
   RGP                      1.    CAI YR 2, CAI YR 3              51.6000      8.6000       8.9315       79.7720   (     6)
   RGP                      2.    NON YR 2, NON YR 3              11.7000      1.1700      12.3905      153.5733   (    10)
   RGP                      4.    CAI YR 2, NON YR 3               3.5000      1.7500       8.5560       73.2051   (     2)

X3                          6.    GRADE SIX                       79.2000      6.6000       8.6423       74.6891   (    12)
   RGP                      1.    CAI YR 2, CAI YR 3              56.2000     11.2400      10.0044      100.0880   (     5)
   RGP                      2.    NON YR 2, NON YR 3              23.0000      3.2857       6.2808       39.4481   (     7)

X3                         11.    GRADE ELEVEN                     9.0000      4.5000       6.3640       40.5000   (     2)
   RGP                      1.    CAI YR 2, CAI YR 3               0.0         0.0          0.0           0.0      (     1)
   RGP                      3.    NON YR 2, CAI YR 3               9.0000      9.0000       0.0           0.0      (     1)

X3                         12.    GRADE TWELVE                     0.0         0.0          0.0           0.0      (     1)
   RGP                      1.    CAI YR 2, CAI YR 3               0.0         0.0          0.0           0.0      (     1)

  TOTAL CASES =      162
MISSING CASES =       71 OR  43.8 PCT.
```

TABLE A46
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File
GAIN 4

```
------------------- D E S C R I P T I O N   O F   S U B P O P U L A T I O N S -------------------
CRITERION VARIABLE   RG4        READING GAIN OVER SUMMER
    BROKEN DOWN BY   X3         GRADE LEVEL 82
                BY   RGP        READING TREATMENT GROUP
--------------------------------------------------------------------------------------------------

VARIABLE                 CODE    VALUE LABEL                    SUM        MEAN       STD DEV     VARIANCE         N

FOR ENTIRE POPULATION                                      -401.8000     -4.2745     13.8584     192.0557    (    94)

X3                         2.    GRADE TWO                  115.1060     10.4636     22.0464     486.0425    (    11)
   RGP                     2.    NON YR 2, NON YR 3          41.7000      5.9571     24.4680     598.6830    (     7)
   RGP                     3.    NON YR 2, CAI YR 3          -1.4000     -1.4000      0.0          0.0       (     1)
   RGP                     4.    CAI YR 2, NON YR 3          74.8000     24.9333     13.3661     178.6532    (     3)

X3                         3.    GRADE THREE               -252.7000    -10.5292     12.2362     149.7239    (    24)
   RGP                     1.    CAI YR 2, CAI YR 3        -144.2000    -11.0923     13.8449     191.6807    (    13)
   RGP                     2.    NON YR 2, NON YR 3         -82.2000     -9.1333     11.6825     136.4801    (     9)
   RGP                     3.    NON YR 2, CAI YR 3         -26.3000    -13.1500      4.0305      16.2450    (     2)

X3                         4.    GRADE FOUR                -118.6000     -5.6476      9.4283      88.8936    (    21)
   RGP                     1.    CAI YR 2, CAI YR 3         -35.9000     -3.5900      7.1468      51.0766    (    10)
   RGP                     2.    NON YR 2, NON YR 3         -65.6000     -8.2000     12.1682     148.0657    (     8)
   RGP                     3.    NON YR 2, CAI YR 3           3.2000      3.2000      0.0          0.0       (     1)
   RGP                     4.    CAI YR 2, NON YR 3         -20.3000    -10.1500      8.2732      68.4451    (     2)

X3                         5.    GRADE FIVE                -115.5001     -5.2500     11.0167     121.3683    (    22)
   RGP                     1.    CAI YR 2, CAI YR 3         -50.8000     -6.3500      8.2713      68.4142    (     8)
   RGP                     2.    NON YR 2, NON YR 3         -75.8000     -6.8909     13.2831     176.4409    (    11)
   RGP                     4.    CAI YR 2, NON YR 3          11.1000      3.7000      3.5930      12.9100    (     3)

X3                         6.    GRADE SIX                  -21.5000     -1.6538      9.6444      93.0144    (    13)
   RGP                     1.    CAI YR 2, CAI YR 3         -27.6000     -4.6000     11.2930     127.5320    (     6)
   RGP                     2.    NON YR 2, NON YR 3           6.1000      0.8714      7.9770      63.6324    (     7)

X3                        11.    GRADE ELEVEN                 3.5000      1.7500     22.4153     502.4444    (     2)
   RGP                     1.    CAI YR 2, CAI YR 3          17.6000     17.6000      0.0          0.0       (     1)
   RGP                     3.    NON YR 2, CAI YR 3         -14.1000    -14.1000      0.0          0.0       (     1)

X3                        12.    GRADE TWELVE               -12.1000    -12.1000      0.0          0.0       (     1)
   RGP                     1.    CAI YR 2, CAI YR 3         -12.1000    -12.1000      0.0          0.0       (     1)

  TOTAL CASES =       162
MISSING CASES =        68 OR  42.0 PCT.
```

TABLE A17
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading in the Year 2 - Year 3 Longitudinal File

GAIN 5

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    RG5        READING GAIN PRE YR3 TO POST YR3
    BROKEN DOWN BY    X3         GRADE LEVEL
                BY    RGP        READING TREATMENT GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                   CODE      VALUE LABEL                     SUM          MEAN        STD DEV      VARIANCE       N

FOR ENTIRE POPULATION                                            467.2999        5.1352      10.7608      115.7948   (   91)


X3                           2.      GRADE TWO                     4.9000        0.4455      13.1048      171.7346   (   11)
   RGP                       2.      NON YR 2, NON YR 3           10.6000        1.5143      12.5477      157.4440   (    7)
   RGP                       3.      NON YR 2, CAI YR 3          -16.4000      -16.4000       0.0           0.0     (    1)
   RGP                       4.      CAI YR 2, NON YR 3           10.7000        3.5667      15.0281      225.8432   (    3)

X3                           3.      GRADE THREE                 176.3000        7.0520      11.2333      126.1866   (   25)
   RGP                       1.      CAI YR 2, CAI YR 3          118.6000        8.4714      13.0870      171.2659   (   14)
   RGP                       2.      NON YR 2, NON YR 3           37.3000        4.1444       8.9257       79.6678   (    9)
   RGP                       3.      NON YR 2, CAI YR 3           20.4000       10.2000       6.3640       40.5000   (    2)

X3                           4.      GRADE FOUR                   14.3000        0.6500       7.7529       60.1073   (   22)
   RGP                       1.      CAI YR 2, CAI YR 3           30.8000        3.0800       3.4006       11.5640   (   10)
   RGP                       2.      NON YR 2, NON YR 3          -23.9000       -2.9875      10.9860      120.6926   (    8)
   RGP                       3.      NON YR 2, CAI YR 3           11.0000       11.0000       0.0           0.0     (    1)
   RGP                       4.      CAI YR 2, NON YR 3           -3.6000       -1.2000       3.7041       13.7200   (    3)

X3                           5.      GRADE FIVE                  177.2000        9.8444      11.6332      135.3327   (   18)
   RGP                       1.      CAI YR 2, CAI YR 3           76.8000       12.8000      10.7374      115.2921   (    6)
   RGP                       2.      NON YR 2, NON YR 3          102.9000       10.2900      12.5299      156.9989   (   10)
   RGP                       4.      CAI YR 2, NON YR 3           -2.5000       -1.2500       3.1820       10.1250   (    2)

X3                           6.      GRADE SIX                    84.0000        7.0000       8.0608       64.9764   (   12)
   RGP                       1.      CAI YR 2, CAI YR 3           46.0000        9.2000       8.3078       69.0200   (    5)
   RGP                       2.      NON YR 2, NON YR 3           38.0000        5.4286       8.1361       66.1958   (    7)

X3                          11.      GRADE ELEVEN                 10.6000        5.3000      12.4451      154.8798   (    2)
   RGP                       1.      CAI YR 2, CAI YR 3           -3.5000       -3.5000       0.0           0.0     (    1)
   RGP                       3.      NON YR 2, CAI YR 3           14.1000       14.1000       0.0           0.0     (    1)

X3                          12.      GRADE TWELVE                  0.0           0.0          0.0           0.0     (    1)
   RGP                       1.      CAI YR 2, CAI YR 3            0.0           0.0          0.0           0.0     (    1)

  TOTAL CASES =       162
MISSING CASES =        71 OR  43.8 PCT.
```

TABLE A48

Descriptive Statistics for NCE Pretest, Post Tes
and Gain Scores by Treatment and Grade Level for
Mathematics in the Year 2 - Year 3 Longitudinal Fil
MATHEMATICS PRETEST Year 2

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   W35        MATH PRETEST NCE SCORE 81
    BROKEN DOWN BY   X3         GRADE LEVEL 82
                BY   MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                CODE     VALUE LABEL                      SUM          MEAN        STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                          1857.3997      39.5191      13.1424      172.7220    (    47)

X3                        1.     GRADE ONE                       17.3000      17.3000       0.0           0.0       (     1)
   MGP                    2.     NON YR 2, NON YR 3              17.3000      17.3000       0.0           0.0       (     1)

X3                        2.     GRADE TWO                      147.0000      36.7500       8.2225       67.6100     (     4)
   MGP                    1.     CAI YR 2, CAI YR 3              48.9000      48.9000       0.0           0.0       (     1)
   MGP                    2.     NON YR 2, NON YR 3              64.4000      32.2000       2.1213        4.5000     (     2)
   MGP                    4.     CAI YR 2, NON YR 3              33.7000      33.7000       0.0           0.0       (     1)

X3                        3.     GRADE THREE                    261.9000      37.4143      15.5021      240.3146     (     7)
   MGP                    1.     CAI YR 2, CAI YR 3             158.1000      39.5250       6.6143       43.7491     (     4)
   MGP                    2.     NON YR 2, NON YR 3              40.3000      20.1500       4.0305       16.2451     (     2)
   MGP                    4.     CAI YR 2, NON YR 3              63.5000      63.5000       0.0           0.0       (     1)

X3                        4.     GRADE FOUR                     632.3999      45.1714      13.2427      175.3663     (    14)
   MGP                    1.     CAI YR 2, CAI YR 3             411.2000      51.4000      12.3439      152.3714     (     8)
   MGP                    2.     NON YR 2, NON YR 3             129.0000      32.2500       7.3314       53.7500     (     4)
   MGP                    4.     CAI YR 2, NON YR 3              92.2000      46.1000       8.4853       72.0000     (     2)

X3                        5.     GRADE FIVE                     447.6999      37.3083      12.7665      162.9845     (    12)
   MGP                    1.     CAI YR 2, CAI YR 3             225.8000      37.6333      13.5355      183.2167     (     6)
   MGP                    2.     NON YR 2, NON YR 3             140.4000      35.1000      16.6014      275.6066     (     4)
   MGP                    4.     CAI YR 2, NON YR 3              81.5000      40.7500       2.4749        6.1250     (     2)

X3                        6.     GRADE SIX                      267.7000      38.2429      12.7049      161.4095     (     7)
   MGP                    1.     CAI YR 2, CAI YR 3             139.2000      34.8000      13.9200      193.7607     (     4)
   MGP                    2.     NON YR 2, NON YR 3              74.3000      37.1500       9.1217       83.2049     (     2)
   MGP                    4.     CAI YR 2, NON YR 3              54.2000      54.2000       0.0           0.0       (     1)

X3                       10.     GRADE TEN                       83.4000      41.7000      13.2936      176.7201     (     2)
   MGP                    1.     CAI YR 2, CAI YR 3              83.4[illegible]      41.7000      13.2936      176.7201     (     2)

  TOTAL CASES =       163
MISSING CASES =       116 OR  71.2 PCT.
```

TABLE A49

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File

MATHEMATICS POST TEST Year 2

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   W37       MATH POSTTEST NCE SCORE 81
    BROKEN DOWN BY   X3        GRADE LEVEL 82
                BY   MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE    VALUE LABEL                   SUM          MEAN        STD DEV     VARIANCE          N

FOR ENTIRE POPULATION                                           2229.5997      46.4500     12.3073     151.4702    (    48)


X3                            1.    GRADE ONE                     23.0000      23.0000      0.0          0.0      (     1)
   MGP                        2.    NON YR 2, NON YR 3            23.0000      23.0000      0.0          0.0      (     1)

X3                            2.    GRADE TWO                    223.6000      55.9000      8.0362      64.5800   (     4)
   MGP                        1.    CAI YR 2, CAI YR 3            64.9000      64.9000      0.0          0.0      (     1)
   MGP                        2.    NON YR 2, NON YR 3           112.9000      56.4500      3.1820      10.1250   (     2)
   MGP                        4.    CAI YR 2, NON YR 3            45.8000      45.8000      0.0          0.0      (     1)

X3                            3.    GRADE THREE                  366.2000      52.3143     11.2497     126.5548   (     7)
   MGP                        1.    CAI YR 2, CAI YR 3           220.7000      55.1750     11.6500     135.7225   (     4)
   MGP                        2.    NON YR 2, NON YR 3            84.5000      42.2500      6.4347      41.4049   (     2)
   MGP                        4.    CAI YR 2, NON YR 3            61.0000      61.0000      0.0          0.0      (     1)

X3                            4.    GRADE FOUR                   702.5999      50.2143     12.4034     153.8444   (    14)
   MGP                        1.    CAI YR 2, CAI YR 3           405.8999      50.7375      8.6664      75.1067   (     8)
   MGP                        2.    NON YR 2, NON YR 3           160.6000      40.1500     11.5901     134.3300   (     4)
   MGP                        4.    CAI YR 2, NON YR 3           136.5000      68.2500      3.7477      14.0450   (     2)

X3                            5.    GRADE FIVE                   532.9999      41.0000     12.1833     148.4333   (    13)
   MGP                        1.    CAI YR 2, CAI YR 3           291.2000      41.6000     15.5441     241.6200   (     7)
   MGP                        2.    NON YR 2, NON YR 3           155.2000      38.8000      8.8751      78.7600   (     4)
   MGP                        4.    CAI YR 2, NON YR 3            86.6000      43.3000      7.9196      62.7200   (     2)

X3                            6.    GRADE SIX                    295.2000      42.1714      8.6187      74.2824   (     7)
   MGP                        1.    CAI YR 2, CAI YR 3           162.3000      40.5750      7.3154      53.5158   (     4)
   MGP                        2.    NON YR 2, NON YR 3            75.4000      37.7000      0.0          0.0      (     2)
   MGP                        4.    CAI YR 2, NON YR 3            57.5000      57.5000      0.0          0.0      (     1)

X3                           10.    GRADE TEN                     85.6000      42.8000      7.2125      52.0200   (     2)
   MGP                        1.    CAI YR 2, CAI YR 3            85.6000      42.8000      7.2125      52.0200   (     2)

  TOTAL CASES =      163
MISSING CASES =      115 OR  70.6 PCT.
```

TABLE A50

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File

MATHEMATICS PRETEST Year 3

```
-------------------- D E S C R I P T I O N   O F   S U B P O P U L A T I O N S --------------------
CRITERION VARIABLE   X35        MATH PRETEST NCE SCORE 82
    BROKEN DOWN BY   X3         GRADE LEVEL 82
                BY   MGP
----------------------------------------------------------------------------------------------------

VARIABLE                  CODE     VALUE LABEL                    SUM          MEAN       STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                          1725.7998     36.7191      12.1541      147.7233   (   47)


X3                          2.     GRADE TWO                    155.8000     38.9500       9.1831       84.3299   (    4)
   MGP                      1.     CAI YR 2, CAI YR 3            36.5000     36.5000       0.0           0.0      (    1)
   MGP                      2.     NON YR 2, NON YR 3            82.8000     41.4000      15.1321      228.9799   (    2)
   MGP                      4.     CAI YR 2, NON YR 3            36.5000     36.5000       0.0           0.0      (    1)

X3                          3.     GRADE THREE                  273.0000     39.0000      13.4397      180.6266   (    7)
   MGP                      1.     CAI YR 2, CAI YR 3           154.6000     38.6500      17.2404      297.2299   (    4)
   MGP                      2.     NON YR 2, NON YR 3            68.4000     34.2000       4.9497       24.5000   (    2)
   MGP                      4.     CAI YR 2, NON YR 3            50.0000     50.0000       0.0           0.0      (    1)

X3                          4.     GRADE FOUR                   540.7999     38.6286      11.6157      134.9253   (   14)
   MGP                      1.     CAI YR 2, CAI YR 3           308.9000     38.6125      13.7508      189.0641   (    8)
   MGP                      2.     NON YR 2, NON YR 3           145.0000     36.2500      10.3307      106.7233   (    4)
   MGP                      4.     CAI YR 2, NON YR 3            86.9000     43.4500       6.2932       39.6045   (    2)

X3                          5.     GRADE FIVE                   405.8000     31.2154      13.1293      172.3797   (   13)
   MGP                      1.     CAI YR 2, CAI YR 3           174.5000     24.9286       9.9344       98.6924   (    7)
   MGP                      2.     NON YR 2, NON YR 3           164.1000     41.0250      16.1929      262.2093   (    4)
   MGP                      4.     CAI YR 2, NON YR 3            67.2000     33.6000       4.1012       16.8200   (    2)

X3                          6.     GRADE SIX                    273.3999     39.0571      12.3387      152.2428   (    7)
   MGP                      1.     CAI YR 2, CAI YR 3           151.4000     37.8500      16.6426      276.9765   (    4)
   MGP                      2.     NON YR 2, NON YR 3            81.9000     40.9500       8.2731       68.4450   (    2)
   MGP                      4.     CAI YR 2, NON YR 3            40.1000     40.1000       0.0           0.0      (    1)

X3                         10.     GRADE TEN                     77.0000     38.5000      13.2936      176.7201   (    2)
   MGP                      1.     CAI YR 2, CAI YR 3            77.0000     38.5000      13.2936      176.7201   (    2)

  TOTAL CASES =      163
MISSING CASES =      116 OR  71.2 PCT.
```

TABLE A51

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File

MATHEMATICS POST TEST Year 3

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   X37       MATH POSTTEST NCE SCORE 82
    BROKEN DOWN BY   X3        GRADE LEVEL 82
                BY   MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                     CODE    VALUE LABEL                   SUM         MEAN       STD DEV      VARIANCE         N

FOR ENTIRE POPULATION                                          1776.8997      44.4225      8.7603       76.7433    (   40)

X3                             2.    GRADE TWO                  188.3000      47.0750     11.4517      131.1425    (    4)
   MGP                         1.    CAI YR 2, CAI YR 3          61.0000      61.0000      0.0           0.0       (    1)
   MGP                         2.    NON YR 2, NON YR 3          93.6000      46.8000      4.5255       20.4801    (    2)
   MGP                         4.    CAI YR 2, NON YR 3          33.7000      33.7000      0.0           0.0       (    1)

X3                             3.    GRADE THREE                215.8000      43.1600     11.8915      141.4030    (    5)
   MGP                         1.    CAI YR 2, CAI YR 3          92.4000      46.2000     17.6777      312.5000    (    2)
   MGP                         2.    NON YR 2, NON YR 3          70.2000      35.1000      1.9799        3.9200    (    2)
   MGP                         4.    CAI YR 2, NON YR 3          53.2000      53.2000      0.0           0.0       (    1)

X3                             4.    GRADE FOUR                 598.2999      46.0231      9.8874       97.7633    (   13)
   MGP                         1.    CAI YR 2, CAI YR 3         383.7000      47.9625     10.0662      101.3304    (    8)
   MGP                         2.    NON YR 2, NON YR 3         111.4000      37.1333      6.6365       44.0434    (    3)
   MGP                         4.    CAI YR 2, NON YR 3         103.2000      51.6000      6.7882       46.0801    (    2)

X3                             5.    GRADE FIVE                 414.0999      41.4100      8.3584       69.8632    (   10)
   MGP                         1.    CAI YR 2, CAI YR 3         188.2000      37.6400      7.3095       53.4330    (    5)
   MGP                         2.    NON YR 2, NON YR 3         150.0000      50.0000      4.8446       23.4700    (    3)
   MGP                         4.    CAI YR 2, NON YR 3          75.9000      37.9500      7.9903       63.8450    (    2)

X3                             6.    GRADE SIX                  264.5999      44.1000      2.3056        5.3160    (    6)
   MGP                         1.    CAI YR 2, CAI YR 3         136.2000      45.4000      1.2124        1.4700    (    3)
   MGP                         2.    NON YR 2, NON YR 3          87.1000      43.5500      3.1820       10.1250    (    2)
   MGP                         4.    CAI YR 2, NON YR 3          41.3000      41.3000      0.0           0.0       (    1)

X3                            10.    GRADE TEN                   95.8000      47.9000      4.5255       20.4800    (    2)
   MGP                         1.    CAI YR 2, CAI YR 3          95.8000      47.9000      4.5255       20.4800    (    2)

  TOTAL CASES =       163
MISSING CASES =       123 OR  75.5 PCT.
```

TABLE A52
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File
GAIN 1

```
- - - - - - - - - - - - - - - - - -   D E S C R I P T I O N   O F   S U B P O P U L A T I O N S   - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MG1        MATH GAIN PRE YR2 TO POST YR2
   BROKEN DOWN BY     X3         GRADE LEVEL 82
               BY     MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                   SUM         MEAN      STD DEV     VARIANCE       N

FOR ENTIRE POPULATION                                           312.3000      6.6447     12.1686     148.0756   (   47)

X3                            1.     GRADE ONE                     5.7000      5.7000      0.0          0.0     (    1)
  MGP                         2.     NON YR 2, NON YR 3            5.7000      5.7000      0.0          0.0     (    1)

X3                            2.     GRADE TWO                    76.6000     19.1500      6.1311      37.5900   (    4)
  MGP                         1.     CAI YR 2, CAI YR 3           16.0000     16.0000      0.0          0.0     (    1)
  MGP                         2.     NON YR 2, NON YR 3           48.5000     24.2500      1.0607       1.1250   (    2)
  MGP                         4.     CAI YR 2, NON YR 3           12.1000     12.1000      0.0          0.0     (    1)

X3                            3.     GRADE THREE                 104.3000     14.9000     11.4396     130.8633   (    7)
  MGP                         1.     CAI YR 2, CAI YR 3           62.6000     15.6500      9.4335      88.9900   (    4)
  MGP                         2.     NON YR 2, NON YR 3           44.2000     22.1000     10.4652     109.5200   (    2)
  MGP                         4.     CAI YR 2, NON YR 3           -2.5000     -2.5000      0.0          0.0     (    1)

X3                            4.     GRADE FOUR                   70.6000      5.0429     13.5993     184.9411   (   14)
  MGP                         1.     CAI YR 2, CAI YR 3           -5.3000     -0.6625     13.7566     189.2797   (    8)
  MGP                         2.     NON YR 2, NON YR 3           31.6000      7.9000      7.7430      59.9533   (    4)
  MGP                         4.     CAI YR 2, NON YR 3           44.3000     22.1500      4.7376      22.4450   (    2)

X3                            5.     GRADE FIVE                   25.4000      2.1167     12.1719     1[illegible]42   (   12)
  MGP                         1.     CAI YR 2, CAI YR 3            5.5000      0.9167     16.0326     257.0450   (    6)
  MGP                         2.     NON YR 2, NON YR 3           14.8000      3.7000      9.9294      98.5933   (    4)
  MGP                         4.     CAI YR 2, NON YR 3            5.1000      2.5500      5.4447      29.6450   (    2)

X3                            6.     GRADE SIX                    27.5000      3.9286      7.5725      57.3424   (    7)
  MGP                         1.     CAI YR 2, CAI YR 3           23.1000      5.7750      8.6407      74.6625   (    4)
  MGP                         2.     NON YR 2, NON YR 3            1.1000      0.5500      9.1217      83.2049   (    2)
  MGP                         4.     CAI YR 2, NON YR 3            3.3000      3.3000      0.0          0.0     (    1)

X3                           10.     GRADE TEN                     2.2000      1.1000      6.0811      36.9801   (    2)
  MGP                         1.     CAI YR 2, CAI YR 3            2.2000      1.1000      6.0811      36.9801   (    2)

   TOTAL CASES =      163
 MISSING CASES =      116 OR  71.2 PCT.
```

TABLE A53

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File

GAIN 2

```
- - - - - - - - - - - - - - - - - D E S C R I P T I O N   O F   S U B P O P U L A T I O N S - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MG2        MATH GAIN PRE YR2 TO PRE YR3
   BROKEN DOWN BY     X3         GRADE LEVEL 82
               BY     MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE     VALUE LABEL                   SUM          MEAN       STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                       -153.2999       -3.3326      12.8347      164.7306    (    46)


X3                         2.      GRADE TWO                   8.8000        2.2000      12.6596      160.2665    (     4)
   MGP                     1.      CAI YR 2, CAI YR 3        -12.4000      -12.4000       0.0           0.0       (     1)
   MGP                     2.      NON YR 2, NON YR 3         18.4000        9.2000      13.0108      169.2799    (     2)
   MGP                     4.      CAI YR 2, NON YR 3          2.8000        2.8000       0.0           0.0       (     1)

X3                         3.      GRADE THREE                11.1000        1.5857      14.5423      211.4781    (     7)
   MGP                     1.      CAI YR 2, CAI YR 3         -3.5000       -0.8750      14.4419      208.5590    (     4)
   MGP                     2.      NON YR 2, NON YR 3         28.1000       14.0500       8.9803       80.6452    (     2)
   MGP                     4.      CAI YR 2, NON YR 3        -13.5000      -13.5000       0.0           0.0       (     1)

X3                         4.      GRADE FOUR                -91.6000       -6.5429      12.7377      162.2486    (    14)
   MGP                     1.      CAI YR 2, CAI YR 3       -102.3000      -12.7875      13.2990      176.8640    (     8)
   MGP                     2.      NON YR 2, NON YR 3         16.0000        4.0000       5.1478       26.5000    (     4)
   MGP                     4.      CAI YR 2, NON YR 3         -5.3000       -2.6500       2.1920        4.8050    (     2)

X3                         5.      GRADE FIVE                -80.9000       -6.7417      13.0046      169.1204    (    12)
   MGP                     1.      CAI YR 2, CAI YR 3        -90.3000      -15.0500      11.0627      122.3570    (     6)
   MGP                     2.      NON YR 2, NON YR 3         23.7000        5.9250       7.9474       63.1692    (     4)
   MGP                     4.      CAI YR 2, NON YR 3        -14.3000       -7.1500       1.6263        2.6450    (     2)

X3                         6.      GRADE SIX                   5.7000        0.8143      12.8950      166.2814    (     7)
   MGP                     1.      CAI YR 2, CAI YR 3         12.2000        3.0500      12.0395      144.9500    (     4)
   MGP                     2.      NON YR 2, NON YR 3          7.6000        3.8000      17.3948      302.5798    (     2)
   MGP                     4.      CAI YR 2, NON YR 3        -14.1000      -14.1000       0.0           0.0       (     1)

X3                        10.      GRADE TEN                  -6.4000       -3.2000       0.0           0.0       (     2)
   MGP                     1.      CAI YR 2, CAI YR 3         -6.4000       -3.2000       0.0           0.0       (     2)

  TOTAL CASES =      163
MISSING CASES =      117 OR  71.8 PCT.
```

TABLE A54

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File

GAIN 3

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MG3        MATH GAIN PRE YR2 TO POST YR3
   BROKEN DOWN BY     X3         GRADE LEVEL 82
               BY     MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE     VALUE LABEL                        SUM          MEAN        STD DEV      VARIANCE         N

FOR ENTIRE POPULATION                                              176.1000       4.5154      11.3243      128.2397    (    39)

X3                          2.     GRADE TWO                        41.3000      10.3250       7.1201       50.6958    (     4)
   MGP                      1.     CAI YR 2, CAI YR 3               12.1000      12.1000       0.0           0.0       (     1)
   MGP                      2.     NON YR 2, NON YR 3               29.2000      14.6000       2.4042        5.7800    (     2)
   MGP                      4.     CAI YR 2, NON YR 3                0.0          0.0          0.0           0.0       (     1)

X3                          3.     GRADE THREE                      29.4000       5.8800      10.9598      120.1171    (     5)
   MGP                      1.     CAI YR 2, CAI YR 3                9.8000       4.9000       6.9296       48.0200    (     2)
   MGP                      2.     NON YR 2, NON YR 3               29.9000      14.9500       2.0506        4.2050    (     2)
   MGP                      4.     CAI YR 2, NON YR 3              -10.3000     -10.3000       0.0           0.0       (     1)

X3                          4.     GRADE FOUR                        7.2000       0.5538       9.2050       84.7436    (    13)
   MGP                      1.     CAI YR 2, CAI YR 3              -27.5000      -3.4375       8.8964       79.1454    (     8)
   MGP                      2.     NON YR 2, NON YR 3               23.7000       7.9000       7.8019       60.8700    (     3)
   MGP                      4.     CAI YR 2, NON YR 3               11.0000       5.5000       1.6971        2.8800    (     2)

X3                          5.     GRADE FIVE                       68.5000       7.6111      15.8272      250.5011    (     9)
   MGP                      1.     CAI YR 2, CAI YR 3               25.5000       6.3750      18.0130      324.4853    (     4)
   MGP                      2.     NON YR 2, NON YR 3               48.6000      16.2000      15.4405      238.4052    (     3)
   MGP                      4.     CAI YR 2, NON YR 3               -5.6000      -2.8000      10.4652      109.5200    (     2)

X3                          6.     GRADE SIX                        17.3000       2.8833      11.7176      137.3017    (     6)
   MGP                      1.     CAI YR 2, CAI YR 3               17.4000       5.8000      13.2639      175.9300    (     3)
   MGP                      2.     NON YR 2, NON YR 3               12.8000       6.4000       5.9397       35.2759    (     2)
   MGP                      4.     CAI YR 2, NON YR 3              -12.9000     -12.9000       0.0           0.0       (     1)

X3                         10.     GRADE TEN                        12.4000       6.2000       8.7681       76.8801    (     2)
   MGP                      1.     CAI YR 2, CAI YR 3               12.4000       6.2000       8.7681       76.8801    (     2)

  TOTAL CASES =      163
MISSING CASES =      124 OR  76.1 PCT.
```

TABLE A55

Descriptive Statistics for MCB Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File

GAIN 4

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   MG4       MATH GAIN OVER SUMMER
    BROKEN DOWN BY   X3        GRADE LEVEL 02
                BY   MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                        CODE     VALUE LABEL                       SUM          MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                                -480.7999      -10.2298       10.7740      116.0782   (   47)


X3                                2.     GRADE TWO                    -67.8000      -16.9500       10.6403      113.2166   (    4)
   MGP                            1.     CAI YR 2, CAI YR 3           -28.4000      -28.4000        0.0           0.0     (    1)
   MGP                            2.     NON YR 2, NON YR 3           -30.1000      -15.0500       11.9501      142.8049   (    2)
   MGP                            4.     CAI YR 2, NON YR 3            -9.3000       -9.3000        0.0           0.0     (    1)

X3                                3.     GRADE THREE                  -93.2000      -13.3143        5.9505       35.4081   (    7)
   MGP                            1.     CAI YR 2, CAI YR 3           -66.1000      -16.5250        6.0063       36.0758   (    4)
   MGP                            2.     NON YR 2, NON YR 3           -16.1000       -8.0500        1.4849        2.2050   (    2)
   MGP                            4.     CAI YR 2, NON YR 3           -11.0000      -11.0000        0.0           0.0     (    1)

X3                                4.     GRADE FOUR                  -162.2000      -11.5857        9.6591       93.2982   (   14)
   MGP                            1.     CAI YR 2, CAI YR 3           -97.0000      -12.1250        9.1568       83.8479   (    8)
   MGP                            2.     NON YR 2, NON YR 3           -15.6000       -3.9000        3.2465       10.5400   (    4)
   MGP                            4.     CAI YR 2, NON YR 3           -49.6000      -24.8000        2.5456        6.4800   (    2)

X3                                5.     GRADE FIVE                 ,-127.2000       -9.7846       13.2957      176.7747   (   13)
   MGP                            1.     CAI YR 2, CAI YR 3          -116.7000      -16.6714       10.3863      107.8757   (    7)
   MGP                            2.     NON YR 2, NON YR 3             8.9000        2.2250       13.5400      183.3093   (    4)
   MGP                            4.     CAI YR 2, NON YR 3           -19.4000       -9.7000        3.8184       14.5800   (    2)

X3                                6.     GRADE SIX                    -21.8000       -3.1143       10.9243      119.3414   (    7)
   MGP                            1.     CAI YR 2, CAI YR 3           -10.9000       -2.7250       10.9834      120.6358   (    4)
   MGP                            2.     NON YR 2, NON YR 3             6.5000        3.2500        8.2731       68.4450   (    2)
   MGP                            4.     CAI YR 2, NON YR 3           -17.4000      -17.4000        0.0           0.0     (    1)

X3                               10.     GRADE TEN                     -8.6000       -4.3000        6.0811       36.9801   (    2)
   MGP                            1.     CAI YR 2, CAI YR 3            -8.6000       -4.3000        6.0811       36.9801   (    2)

  TOTAL CASES =        163
MISSING CASES =        116 OR  71.2 PCT.
```

TABLE A56
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Mathematics in the Year 2 - Year 3 Longitudinal File
GAIN 5

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   MG5        MATH GAIN PRE YR3 TO POST YR3
    BROKEN DOWN BY   A3         GRADE LEVEL 82
                BY   MGP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE    VALUE LABEL                         SUM         MEAN       STD DEV      VARIANCE           N

FOR ENTIRE POPULATION                                           318.6999       7.9675       10.3014      106.1196    (     40)

A3                         2.    GRADE TWO                       32.5000       8.1250       13.1002      171.6158    (      4)
   MGP                     1.    CAI YR 2, CAI YR 3              24.5000      24.5000        0.0           0.0       (      1)
   MGP                     2.    NON YR 2, NON YR 3              10.8000       5.4000       10.6066      112.4998    (      2)
   MGP                     4.    CAI YR 2, NON YR 3              -2.8000      -2.8000        0.0           0.0       (      1)

A3                         3.    GRADE THREE                     36.4000       7.2800        9.1636       83.9719    (      5)
   MGP                     1.    CAI YR 2, CAI YR 3              31.4000      15.7000        6.9296       48.0199    (      2)
   MGP                     2.    NON YR 2, NON YR 3               1.8000       0.9000        6.9296       48.0200    (      2)
   MGP                     4.    CAI YR 2, NON YR 3               3.2000       3.2000        0.0           0.0       (      1)

A3                         4.    GRADE FOUR                     105.4000       8.1077        9.3117       86.7074    (     13)
   MGP                     1.    CAI YR 2, CAI YR 3              74.8000       9.3500       11.6075      134.7286    (      8)
   MGP                     2.    NON YR 2, NON YR 3              14.3000       4.7667        5.0649       25.6533    (      3)
   MGP                     4.    CAI YR 2, NON YR 3              16.3000       8.1500        0.4950        0.2450    (      2)

A3                         5.    GRADE FIVE                     121.2999      12.1300       12.9222      166.9823    (     10)
   MGP                     1.    CAI YR 2, CAI YR 3              73.5000      14.7000       14.4815      209.7140    (      5)
   MGP                     2.    NON YR 2, NON YR 3              39.1000      13.0333       13.4396      180.6234    (      3)
   MGP                     4.    CAI YR 2, NON YR 3               8.7000       4.3500       12.0915      146.2051    (      2)

A3                         6.    GRADE SIX                        4.3000       0.7167        5.8664       34.4376    (      6)
   MGP                     1.    CAI YR 2, CAI YR 3              -2.1000      -0.7000        3.7162       13.8100    (      3)
   MGP                     2.    NON YR 2, NON YR 3               5.2000       2.6000       11.4551      131.2200    (      2)
   MGP                     4.    CAI YR 2, NON YR 3               1.2000       1.2000        0.0           0.0       (      1)

A3                        10.    GRADE TEN                       18.8000       9.4000        8.7681       76.8831    (      2)
   MGP                     1.    CAI YR 2, CAI YR 3              18.8000       9.4000        8.7681       76.8831    (      2)

  TOTAL CASES =      163
MISSING CASES =      123 OR  75.5 PCT.
```

APPENDIX B

TABLE B1
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
READING NCE PRETEST YEAR 1

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    V31        READING PRETEST NCE SCORE 80
    BROKEN DOWN BY    V3         GRADE LEVEL 80
                BY    RGP        READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE      VALUE LABEL                 SUM           MEAN        STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                      21970.2966        30.9441      13.4090      179.8009     (   710)


V3                          2.      GRADE TWO               2421.5996        33.6333      14.8235      219.7352     (    72)
   RGP                      1.      CAI YR 1                 526.5999        40.5077      13.1674      173.4074     (    13)
   RGP                      2.      NON-CAI YR 1            1894.9997        32.1186      14.8351      220.0794     (    59)

V3                          3.      GRADE THREE             3201.8995        32.0190      10.3859      107.8662     (   100)
   RGP                      1.      CAI YR 1                2035.4997        33.9250      10.0824      101.6541     (    60)
   RGP                      2.      NON-CAI YR 1            1166.3998        29.1600      10.2984      106.0573     (    40)

V3                          4.      GRADE FOUR              3486.9994        33.2095      12.0276      144.6622     (   105)
   RGP                      1.      CAI YR 1                1768.0998        36.0837      13.1245      172.2522     (    49)
   RGP                      2.      NON-CAI YR 1            1718.8997        30.6946      10.4601      109.4147     (    56)

V3                          5.      GRADE FIVE              3256.1996        30.4318      12.3852      153.3935     (   107)
   RGP                      1.      CAI YR 1                1063.2998        32.2212      10.7339      115.2167     (    33)
   RGP                      2.      NON-CAI YR 1            2192.8997        29.6338      13.0436      170.1368     (    74)

V3                          6.      GRADE SIX               1671.2997        32.1404      12.3008      151.4505     (    52)
   RGP                      1.      CAI YR 1                1252.8997        32.9710      12.6987      161.2572     (    38)
   RGP                      2.      NON-CAI YR 1             418.3999        29.8857      11.3017      127.7290     (    14)

V3                          7.      GRADE SEVEN             1391.7998        30.9289      10.6615      113.6604     (    45)
   RGP                      1.      CAI YR 1                 354.4000        29.5333      13.5470      183.5224     (    12)
   RGP                      2.      NON-CAI YR 1            1037.3998        31.4364       9.6027       92.2124     (    33)

V3                          8.      GRADE EIGHT              930.8999        32.1000      13.3783      178.9800     (    29)
   RGP                      2.      NON-CAI YR 1             930.8999        32.1000      13.3783      178.9800     (    29)

V3                          9.      GRADE NINE              2792.7996        30.0301      15.0558      226.6777     (    93)
   RGP                      1.      CAI YR 1                1265.5998        26.9277      16.3515      267.3702     (    47)
   RGP                      2.      NON-CAI YR 1            1527.1998        33.2000      13.0305      169.7938     (    46)

V3                         10.      GRADE TEN               1527.0998        26.7912      17.2244      296.6797     (    57)
   RGP                      1.      CAI YR 1                1026.8999        30.2029      16.1367      260.3935     (    34)
   RGP                      2.      NON-CAI YR 1             500.1599        21.7478      17.8889      320.0135     (    23)

V3                         11.      GRADE ELEVEN             763.1999        25.4400      15.5027      240.3326     (    30)
   RGP                      1.      CAI YR 1                 558.8999        26.6143      15.2160      231.5273     (    21)
   RGP                      2.      NON-CAI YR 1             204.3000        22.7000      16.7428      280.3224     (     9)

V3                         12.      GRADE TWELVE             526.4999        26.3250      14.5209      210.8577     (    20)
   RGP                      1.      CAI YR 1                 190.0000        21.1111      15.4337      238.1965     (     9)
   RGP                      2.      NON-CAI YR 1             336.4999        30.5909      12.8681      165.5869     (    11)
```

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TABLE B2
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation
READING NCE POST TEST YEAR 1

```
- - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   V33        READING POSTTEST NCE SCORE 80
    BROKEN DOWN BY   V3         GRADE LEVEL 80
                BY   RGP        READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE    VALUE LABEL                 SUM          MEAN        STD DEV      VARIANCE          N

FOR ENTIRE POPULATION                                     26009.3964      36.6330      14.7846      218.5848     (  710)


V3                          2.    GRADE TWO                2912.0996      40.4458      15.9627      254.8073     (   72)
   RGP                      1.    CAI YR 1                  596.5999      45.8923      14.8771      221.3290     (   13)
   RGP                      2.    NON-CAI YR 1             2315.4997      39.2458      16.0028      256.0132     (   59)

V3                          3.    GRADE THREE              4134.0995      41.3410      12.2113      149.1108     (  100)
   RGP                      1.    CAI YR 1                 2500.1997      41.6700      12.4938      156.0944     (   60)
   RGP                      2.    NON-CAI YR 1             1633.8998      40.8475      11.9150      141.9677     (   40)

V3                          4.    GRADE FOUR               3897.6994      37.1209      11.2052      125.5570     (  105)
   RGP                      1.    CAI YR 1                 1980.4997      40.4184      10.5880      112.1061     (   49)
   RGP                      2.    NON-CAI YR 1             1917.1997      34.2357      11.0189      121.4172     (   56)

V3                          5.    GRADE FIVE               3781.2994      35.3392      11.9170      142.0143     (  107)
   RGP                      1.    CAI YR 1                 1206.8998      36.5727       9.2809       86.1350     (   33)
   RGP                      2.    NON-CAI YR 1             2574.3996      34.7892      12.9406      167.4558     (   74)

V3                          6.    GRADE SIX                2175.4998      41.8365      10.4735      109.6945     (   52)
   RGP                      1.    CAI YR 1                 1605.8998      42.2605      10.5406      111.0922     (   38)
   RGP                      2.    NON-CAI YR 1              569.5999      40.6857      10.5926      112.2028     (   14)

V3                          7.    GRADE SEVEN              1338.1998      29.7378      11.0230      121.5069     (   45)
   RGP                      1.    CAI YR 1                  380.4999      31.7083       8.1104       65.7786     (   12)
   RGP                      2.    NON-CAI YR 1              957.6998      29.0212      11.9363      142.4748     (   33)

V3                          8.    GRADE EIGHT              1064.5998      36.7103      16.4282      269.8859     (   29)
   RGP                      2.    NON-CAI YR 1             1064.5998      36.7103      16.4282      269.8859     (   29)

V3                          9.    GRADE NINE               3305.6996      35.5452      19.5023      380.3392     (   93)
   RGP                      1.    CAI YR 1                 1358.2998      28.9000      21.6647      469.3582     (   47)
   RGP                      2.    NON-CAI YR 1             1947.3998      42.3348      14.3021      204.5499     (   46)

V3                         10.    GRADE TEN                1864.8997      32.7175      15.8784      252.1250     (   57)
   RGP                      1.    CAI YR 1                 1257.4998      36.9853      12.0493      145.1861     (   34)
   RGP                      2.    NON-CAI YR 1              607.3999      26.4087      18.8211      354.2344     (   23)

V3                         11.    GRADE ELEVEN              906.0999      30.2033      19.1604      367.1224     (   30)
   RGP                      1.    CAI YR 1                  608.3999      28.9714      19.9064      396.2601     (   21)
   RGP                      2.    NON-CAI YR 1              297.7000      33.0778      18.0797      326.8745     (    9)

                           12.    GRADE TWELVE              629.1999      31.4600      17.7448      314.8772     (   20)
V3                          1.    CAI YR 1                  236.7000      26.3000      21.3155      454.3500     (    9)
   RGP                      2.    NON-CAI YR 1              392.4999      35.6818      13.8281      191.2176     (   11)
   RGP
```

TABLE B3

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation

READING NCE GAIN YEAR 1

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   RGAIN      READING NCE GAIN
    BROKEN DOWN BY   V3         GRADE LEVEL 80
                BY   RGP        READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                CODE     VALUE LABEL                  SUM          MEAN        STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                      4039.0996       5.6889      12.5340       157.1016    (   710)

V3                       2.      GRADE TWO                  490.5000       6.8125      15.0539       226.6213    (    72)
  RGP                    1.      CAI YR 1                    70.0000       5.3846       7.8943        62.3196    (    13)
  RGP                    2.      NON-CAI YR 1               420.5000       7.1271      16.2470       263.9643    (    59)

V3                       3.      GRADE THREE                932.2000       9.3220      12.3531       152.5999    (   100)
  RGP                    1.      CAI YR 1                   464.6999       7.7450      11.9951       143.8835    (    60)
  RGP                    2.      NON-CAI YR 1               467.5000      11.6875      12.6544       160.1339    (    40)

V3                       4.      GRADE FOUR                 410.7000       3.9114      11.5659       133.7694    (   105)
  RGP                    1.      CAI YR 1                   212.3999       4.3347      13.2002       174.2452    (    49)
  RGP                    2.      NON-CAI YR 1               198.3001       3.5411      10.0289       100.5781    (    56)

V3                       5.      GRADE FIVE                 525.0998       4.9075      12.1192       146.8750    (   107)
  RGP                    1.      CAI YR 1                   143.6000       4.3515      11.9520       142.8499    (    33)
  RGP                    2.      NON-CAI YR 1               381.4999       5.1554      12.2655       150.4436    (    74)

V3                       6.      GRADE SIX                  504.2001       9.6962      11.1369       124.0313    (    52)
  RGP                    1.      CAI YR 1                   353.0000       9.2895      12.4904       156.0106    (    38)
  RGP                    2.      NON-CAI YR 1               151.2000      10.8000       6.3842        40.7585    (    14)

V3                       7.      GRADE SEVEN                -53.6000      -1.1911      12.2244       149.4356    (    45)
  RGP                    1.      CAI YR 1                    26.1000       2.1750      12.2076       149.0256    (    12)
  RGP                    2.      NON-CAI YR 1               -79.6999      -2.4151      12.1841       148.4523    (    33)

V3                       8.      GRADE EIGHT                133.6999       4.6103       9.6799        93.7002    (    29)
  RGP                    2.      NON-CAI YR 1               133.6999       4.6103       9.6799        93.7002    (    29)

V3                       9.      GRADE NINE                 512.9000       5.5151      12.5000       156.2512    (    93)
  RGP                    1.      CAI YR 1                    92.7000       1.9723      13.4773       181.6385    (    47)
  RGP                    2.      NON-CAI YR 1               420.2000       9.1348      10.3572       107.2716    (    46)

V3                      10.      GRADE TEN                  337.7999       5.9263      12.1159       146.7950    (    57)
  RGP                    1.      CAI YR 1                   230.6000       6.7824      10.1747       103.5244    (    34)
  RGP                    2.      NON-CAI YR 1               107.2000       4.6609      14.6823       215.5688    (    23)

V3                      11.      GRADE ELEVEN               142.9000       4.7633      13.7129       188.0437    (    30)
  RGP                    1.      CAI YR 1                    49.5000       2.3571      12.3068       151.4565    (    21)
  RGP                    2.      NON-CAI YR 1                93.4000      10.3778      15.8857       252.3560    (     9)

V3                      12.      GRADE TWELVE               102.7000       5.1350      10.9761       120.4740    (    20)
  RGP                    1.      CAI YR 1                    46.7000       5.1889      11.6582       135.9137    (     9)
  RGP                    2.      NON-CAI YR 1                56.0000       5.0909      10.9620       120.1646    (    11)
```

TABLE B4
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
MATHEMATICS NCE PRETEST YEAR 1

```
- - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    V35        MATH PRETEST NCE SCORE 80
    BROKEN DOWN BY    V3         GRADE LEVEL 80
                BY    MGP        MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                   CODE    VALUE LABEL                SUM          MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                    17806.8972       35.3311      13.3926      179.3619   (   504)


V3                          1.     GRADE ONE              2050.0497       33.0661      17.6006      316.6616   (    62)
   MGP                      1.     CAI YR 1                874.8999       38.0391      20.2988      412.0466   (    23)
   MGP                      2.     NON-CAI YR 1           1175.1998       30.1333      15.6443      246.5002   (    39)

V3                          2.     GRADE TWO              1467.4998       30.5729      13.9845      195.5675   (    48)
   MGP                      1.     CAI YR 1                718.3999       29.9333      13.6960      187.6569   (    24)
   MGP                      2.     NON-CAI YR 1            749.0999       31.2125      14.5304      211.1324   (    24)

V3                          3.     GRADE THREE            2748.3995       33.1132      12.6319      159.5655   (    83)
   MGP                      1.     CAI YR 1               1542.0997       34.2689      11.6461      135.6322   (    45)
   MGP                      2.     NON-CAI YR 1           1206.2998       31.7447      13.7401      188.7917   (    38)

V3                          4.     GRADE FOUR             1919.0998       39.9812      10.1421      102.8626   (    48)
   MGP                      1.     CAI YR 1                853.8999       40.6619       7.4920       56.1295   (    21)
   MGP                      2.     NON-CAI YR 1           1065.1999       39.4518      11.9267      142.2626   (    27)

V3                          5.     GRADE FIVE             2247.7997       38.0963      12.1969      148.7653   (    59)
   MGP                      1.     CAI YR 1               1535.5998       37.4634      11.7350      137.7094   (    41)
   MGP                      2.     NON-CAI YR 1            711.7999       39.5444      13.4292      180.3430   (    18)

V3                          6.     GRADE SIX              2303.3996       37.1516       9.6258       92.7550   (    62)
   MGP                      1.     CAI YR 1                382.5999       34.7818       8.6175       74.2610   (    11)
   MGP                      2.     NON-CAI YR 1           1920.7996       37.6627       9.8377       96.7806   (    51)

V3                          7.     GRADE SEVEN            1654.0997       33.7571      14.4138      207.7562   (    49)
   MGP                      2.     NON-CAI YR 1           1654.0997       33.7571      14.4138      207.7562   (    49)

V3                          8.     GRADE EIGHT             815.4999       35.4565      14.9481      223.4471   (    23)
   MGP                      2.     NON-CAI YR 1            815.4999       35.4565      14.9481      223.4471   (    23)

V3                          9.     GRADE NINE             1507.8998       35.9024      13.2057      176.6173   (    42)
   MGP                      1.     CAI YR 1                842.2999       33.6920      14.0725      198.0341   (    25)
   MGP                      2.     NON-CAI YR 1            665.5999       39.1529      11.6906      136.6761   (    17)

V3                         10.     GRADE TEN               708.9999       41.7059      10.6295      112.9856   (    17)
   MGP                      1.     CAI YR 1                708.9999       41.7059      10.6295      112.9856   (    17)

V3                         11.     GRADE ELEVEN            384.0999       34.9182      11.0504      122.1116   (    11)
   MGP                      1.     CAI YR 1                384.0999       34.9182      11.0504      122.1116   (    11)
```

TABLE B5
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation
MATHEMATICS NCE POST TEST YEAR 1

```
- - - - - - - - - - - - - - - - - - D E S C R I P T I O N   O F   S U B P O P U L A T I O N S - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    V37       MATH POSTTEST NCE SCORE 80
    BROKEN DOWN BY    V3        GRADE LEVEL 80
                BY    MGP       MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                     CODE      VALUE LABEL                  SUM          MEAN       STD DEV      VARIANCE         N

FOR ENTIRE POPULATION                                           23498.8969      46.6248     14.3209      205.0869    (   504)


V3                            1.       GRADE ONE                 3443.0997      55.5339     16.8182      282.6504    (     62)
   MGP                        1.       CAI YR 1                  1401.4999      60.9348     15.4116      237.5223    (     23)
   MGP                        2.       NON-CAI YR 1              2041.5999      52.3487     16.9344      286.4568    (     39)

V3                            2.       GRADE TWO                 2531.9998      52.7500     14.1367      199.8460    (     48)
   MGP                        1.       CAI YR 1                  1250.0999      52.0875     14.1134      199.1881    (     24)
   MGP                        2.       NON-CAI YR 1              1281.8999      53.4125     14.4318      208.2765    (     24)

V3                            3.       GRADE THREE               4008.1994      48.2916     15.0073      225.2191    (     83)
   MGP                        1.       CAI YR 1                  2245.0997      49.8911     15.3619      235.9672    (     45)
   MGP                        2.       NON-CAI YR 1              1763.0997      46.3974     14.5501      211.7040    (     38)

V3                            4.       GRADE FOUR                2164.0997      45.0854     12.0213      144.5119    (     48)
   MGP                        1.       CAI YR 1                  1017.9999      48.4762     10.3393      106.9013    (     21)
   MGP                        2.       NON-CAI YR 1              1146.0999      42.4481     12.7472      162.4918    (     27)

V3                            5.       GRADE FIVE                2778.9996      47.1017      9.2387       85.3530    (     59)
   MGP                        1.       CAI YR 1                  1935.1997      47.2000      9.7981       96.0020    (     41)
   MGP                        2.       NON-CAI YR 1               843.7999      46.8778      8.0772       65.2407    (     18)

V3                            6.       GRADE SIX                 2819.9996      45.4839     10.9598      120.1166    (     62)
   MGP                        1.       CAI YR 1                   520.4999      47.3182     11.8947      141.4836    (     11)
   MGP                        2.       NON-CAI YR 1              2299.4996      45.0882     10.8326      117.3456    (     51)

V3                            7.       GRADE SEVEN               1906.5997      38.9102     13.7506      189.0797    (     49)
   MGP                        2.       NON-CAI YR 1              1906.5997      38.9102     13.7506      189.0797    (     49)

V3                            8.       GRADE EIGHT                854.5998      37.1565     12.8747      165.7580    (     23)
   MGP                        2.       NON-CAI YR 1               854.5998      37.1565     12.8747      165.7580    (     23)

V3                            9.       GRADE NINE                1667.4998      39.7024     14.8437      220.3308    (     42)
   MGP                        1.       CAI YR 1                  1052.9999      42.1200     14.3465      205.8217    (     25)
   MGP                        2.       NON-CAI YR 1               614.4999      36.1471     15.2747      233.3170    (     17)

V3                           10.       GRADE TEN                  853.0999      50.1823     11.0987      123.1802    (     17)
   MGP                        1.       CAI YR 1                   853.0999      50.1823     11.0987      123.1802    (     17)

V3                           11.       GRADE ELEVEN               470.6999      42.7909      8.4810       71.9269    (     11)
   MGP                        1.       CAI YR 1                   470.6999      42.7909      8.4810       71.9269    (     11)
```

TABLE B6
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation
MATHEMATICS NCE GAIN YEAR 1

```
- - - - - - - - - - - - - - - - -   D E S C R I P T I O N   O F   S U B P O P U L A T I O N S   - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MGAIN      MATH NCE GAIN
    BROKEN DOWN BY    V3         GRADE LEVEL 80
                BY    MGP        MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                 CODE     VALUE LABEL                    SUM          MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                         5691.5996     11.2937      14.5656      212.1455    (   504)

V3                         1.     GRADE ONE                   1393.0000     22.4677      16.0322      257.0310    (    62)
   MGP                     1.     CAI YR 1                     526.2000     22.8957      18.6292      347.0470    (    23)
   MGP                     2.     NON-CAI YR 1                 866.4000     22.2154      14.5433      211.5039    (    39)

V3                         2.     GRADE TWO                   1064.4999     22.1771      14.4049      207.5001    (    48)
   MGP                     1.     CAI YR 1                     531.6999     22.1542      13.8793      192.6350    (    24)
   MGP                     2.     NON-CAI YR 1                 532.8000     22.2000      15.2154      231.5078    (    24)

V3                         3.     GRADE THREE                 1259.7999     15.1783      11.9807      143.5371    (    83)
   MGP                     1.     CAI YR 1                     703.0000     15.6222      13.4497      180.8941    (    45)
   MGP                     2.     NON-CAI YR 1                 556.7999     14.6526      10.1227      102.4635    (    38)

V3                         4.     GRADE FOUR                   244.9999      5.1042      11.0774      122.7093    (    48)
   MGP                     1.     CAI YR 1                     164.1000      7.8143      11.2635      126.8673    (    21)
   MGP                     2.     NON-CAI YR 1                  80.9000      2.9963      10.6623      113.6842    (    27)

V3                         5.     GRADE FIVE                   531.1999      9.0034      12.9511      167.7300    (    59)
   MGP                     1.     CAI YR 1                     399.1999      9.7366      14.0161      196.4519    (    41)
   MGP                     2.     NON-CAI YR 1                 132.0000      7.3333      10.2843      105.7656    (    18)

V3                         6.     GRADE SIX                    516.6000      8.3323      13.0768      171.0004    (    62)
   MGP                     1.     CAI YR 1                     137.9000     12.5364      13.3079      177.1006    (    11)
   MGP                     2.     NON-CAI YR 1                 378.7000      7.4255      12.9725      168.2855    (    51)

V3                         7.     GRADE SEVEN                  252.4999      5.1531      14.4919      210.0154    (    49)
   MGP                     2.     NON-CAI YR 1                 252.4999      5.1531      14.4919      210.0154    (    49)

V3                         8.     GRADE EIGHT                   39.1000      1.7000      11.8336      140.0345    (    23)
   MGP                     2.     NON-CAI YR 1                  39.1000      1.7000      11.8336      140.0345    (    23)

V3                         9.     GRADE NINE                   159.6000      3.8000      10.9051      118.9215    (    42)
   MGP                     1.     CAI YR 1                     210.7000      8.4280       7.9545       63.2730    (    25)
   MGP                     2.     NON-CAI YR 1                 -51.1000     -3.0059      11.2759      127.1455    (    17)

V3                        10.     GRADE TEN                    144.1000      8.4765       7.3586       54.1494    (    17)
   MGP                     1.     CAI YR 1                     144.1000      8.4765       7.3586       54.1494    (    17)

V3                        11.     GRADE ELEVEN                  86.6000      7.8727      10.1365      102.7462    (    11)
   MGP                     1.     CAI YR 1                      86.6000      7.8727      10.1365      102.7462    (    11)
```

TABLE B7
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
READING NCE PRETEST YEAR 2

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    M31      READING PRETEST NCE SCORE 81
    BROKEN DOWN BY    M3       GRADE LEVEL 81
                BY    RGP      READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                    SUM          MEAN         STD DEV        VARIANCE        N

FOR ENTIRE POPULATION                                          22867.9965       36.9435       12.9157       166.8165    (   619)


M3                           2.      GRADE TWO                  4600.0994       38.3342       13.7640       189.4466    (   120)
   RGP                       1.      CAI YR 2                   1873.4997       37.4700       14.6534       214.7229    (    50)
   RGP                       2.      NON-CAI YR 2               2726.5997       38.9514       13.1649       173.3147    (    70)

M3                           3.      GRADE THREE                3618.5995       38.4957       11.5946       134.4393    (    94)
   RGP                       1.      CAI YR 2                   1427.4998       37.5658       10.2903       105.8974    (    38)
   RGP                       2.      NON-CAI YR 2               2191.0997       39.1268       12.4667       155.4180    (    56)

M3                           4.      GRADE FOUR                 3172.5995       36.4667       10.2339       104.7334    (    87)
   RGP                       1.      CAI YR 2                   1539.4997       34.9886       11.7427       137.8917    (    44)
   RGP                       2.      NON-CAI YR 2               1633.0998       37.9791        8.2855        68.6485    (    43)

M3                           5.      GRADE FIVE                 3292.0995       37.4102       12.3820       153.3135    (    88)
   RGP                       1.      CAI YR 2                   1132.4998       35.3906       13.2926       176.6955    (    32)
   RGP                       2.      NON-CAI YR 2               2159.5997       38.5643       11.7979       139.1914    (    56)

M3                           6.      GRADE SIX                  1598.0997       31.9620       12.7007       161.3069    (    50)
   RGP                       1.      CAI YR 2                   1349.4998       31.3837       12.8123       164.1571    (    43)
   RGP                       2.      NON-CAI YR 2                248.6000       35.5143       12.2960       151.1915    (     7)

M3                           7.      GRADE SEVEN                1972.1997       35.8582       10.8451       117.6162    (    55)
   RGP                       1.      CAI YR 2                   1626.0998       35.3500       10.7968       116.5701    (    46)
   RGP                       2.      NON-CAI YR 2                346.0999       38.4555       11.3634       129.1278    (     9)

M3                           8.      GRADE EIGHT                1142.3998       40.8000       12.7653       162.9533    (    28)
   RGP                       1.      CAI YR 2                    314.3000       39.2875       10.1375       102.7698    (     8)
   RGP                       2.      NON-CAI YR 2                828.0999       41.4050       13.8692       192.3541    (    20)

M3                           9.      GRADE NINE                 1552.1998       40.8474       15.2666       233.0739    (    38)
   RGP                       1.      CAI YR 2                   1075.3999       43.0160       13.1989       174.2122    (    25)
   RGP                       2.      NCN-CA. YR 2                476.7999       36.6769       18.4819       341.5802    (    13)

M3                          10.      GRADE TEN                  1417.7997       32.2227       17.0624       291.1240    (    44)
   RGP                       1.      CAI YR 2                    406.7999       31.2923       18.6301       347.0806    (    13)
   RGP                       2.      NON-CAI YR 2               1010.9998       32.6129       16.6707       277.9131    (    31)

M3                          11.      GRADE ELEVEN                501.8999       33.4600       11.7775       138.7097    (    15)
   RGP                       2.      NON-CAI YR 2                501.8999       33.4600       11.7775       138.7097    (    15)
```

TABLE B3

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation

READING NCE POST TEST YEAR 2

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    W35         READING POSTTEST NCE SCORE 81
    BROKEN DOWN BY    W3          GRADE LEVEL 81
                BY    RGP         READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE               CODE     VALUE LABEL                  SUM           MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                    25440.9964       41.1002      14.5033      212.0685   (   619)


W3                       2.     GRADE TWO                 5249.4993       43.7458      16.8927      285.3631   (   120)
   RGP                   1.     CAI YR 2                  2386.9997       47.7400      16.3886      268.5861   (    50)
   RGP                   2.     NON-CAI YR 2              2862.4996       40.8929      16.7808      281.5952   (    70)

W3                       3.     GRADE THREE               3954.6994       42.0713      13.2947      176.7492   (    94)
   RGP                   1.     CAI YR 2                  1610.6998       42.3868      12.5089      156.4714   (    38)
   RGP                   2.     NON-CAI YR 2              2343.9997       41.8571      13.9100      193.4867   (    56)

W3                       4.     GRADE FOUR                3281.4996       37.7184      11.0999      123.2075   (    87)
   RGP                   1.     CAI YR 2                  1738.6998       39.5159      10.0878      101.7642   (    44)
   RGP                   2.     NON-CAI YR 2              1542.7998       35.8791      11.8847      141.2464   (    43)

W3                       5.     GRADE FIVE                3462.6995       39.3489      11.6765      136.3032   (    88)
   RGP                   1.     CAI YR 2                  1349.7998       42.1812      11.4736      131.6429   (    32)
   RGP                   2.     NON-CAI YR 2              2112.8997       37.7304      11.5845      134.2000   (    56)

W3                       6.     GRADE SIX                 2110.3997       42.2080      11.2679      126.9660   (    50)
   RGP                   1.     CAI YR 2                  1832.4998       42.6163      11.3478      128.7733   (    43)
   RGP                   2.     NON-CAI YR 2               277.9000       39.7000      11.2069      125.5934   (     7)

W3                       7.     GRADE SEVEN               1957.8996       35.5982      12.6245      159.3781   (    55)
   RGP                   1.     CAI YR 2                  1668.6997       36.2761      12.1532      147.7031   (    46)
   RGP                   2.     NON-CAI YR 2               289.2000       32.1333      15.1277      228.8474   (     9)

W3                       8.     GRADE EIGHT               1193.7998       42.6357      17.0729      291.4831   (    28)
   RGP                   1.     CAI YR 2                   353.6000       44.2000      18.4073      338.8255   (     8)
   RGP                   2.     NON-CAI YR 2               840.1999       42.0100      16.9686      287.9389   (    20)

W3                       9.     GRADE NINE                1937.3997       50.9842      19.3924      376.0662   (    38)
   RGP                   1.     CAI YR 2                  1398.6998       55.9480      18.9848      360.4234   (    25)
   RGP                   2.     NON-CAI YR 2               538.6999       41.4385      16.9913      288.7059   (    13)

W3                      10.     GRADE TEN                 1734.6998       39.4250      15.8751      252.0214   (    44)
   RGP                   1.     CAI YR 2                   486.0999       37.3923      14.9537      223.6141   (    13)
   RGP                   2.     NON-CAI YR 2              1248.5998       40.2774      16.4348      270.1030   (    31)

W3                      11.     GRADE ELEVEN               558.3999       37.2267      13.8646      192.2263   (    15)
   RGP                   2.     NON-CAI YR 2               558.3999       37.2267      13.8646      192.2263   (    15)
```

TABLE 89
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation
READING NCE GAIN YEAR 2

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    RGAIN      READING NCE GAIN
    BROKEN DOWN BY    G3         GRADE LEVEL 81
                BY    RGP        READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE    VALUE LABEL                 SUM           MEAN        STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                    2572.9998         4.1567        13.2097       174.4966     (   619)


G3                          2.    GRADE TWO               649.3999         5.4117        17.1162       292.9657     (   120)
   RGP                      1.    CAI YR 2                513.5000        10.2700        18.8936       356.9698     (    50)
   RGP                      2.    NON-CAI YR 2            135.8999         1.9414        14.9144       222.4304     (    70)

G3                          3.    GRADE THREE             336.1000         3.5755        12.3848       153.3834     (    94)
   RGP                      1.    CAI YR 2                183.2000         4.8211        11.0919       123.0298     (    38)
   RGP                      2.    NON-CAI YR 2            152.9000         2.7304        13.2209       174.7927     (    56)

G3                          4.    GRADE FOUR              108.9001         1.2517        10.2110       104.2655     (    87)
   RGP                      1.    CAI YR 2                199.2001         4.5273        10.9311       119.4895     (    44)
   RGP                      2.    NON-CAI YR 2            -90.2999        -2.1000         8.2716        68.4200     (    43)

G3                          5.    GRADE FIVE              170.6000         1.9386        11.4663       131.4752     (    88)
   RGP                      1.    CAI YR 2                217.2999         6.7906        12.9643       168.0737     (    32)
   RGP                      2.    NON-CAI YR 2            -46.7000        -0.8339         9.5767        91.7135     (    56)

G3                          6.    GRADE SIX               512.3000        10.2460         9.8160        96.3554     (    50)
   RGP                      1.    CAI YR 2                483.0000        11.2326         9.8308        96.6451     (    43)
   RGP                      2.    NON-CAI YR 2             29.3000         4.1857         7.7875        60.6447     (     7)

G3                          7.    GRADE SEVEN             -14.3001        -0.2600        10.9517       119.9391     (    55)
   RGP                      1.    CAI YR 2                 42.5999         0.9261        10.9427       119.7424     (    46)
   RGP                      2.    NON-CAI YR 2            -56.9000        -6.3222         9.3061        86.6043     (     9)

G3                          8.    GRADE EIGHT              51.4000         1.8357         8.9153        79.4824     (    28)
   RGP                      1.    CAI YR 2                 39.3000         4.9125        12.2327       149.6383     (     8)
   RGP                      2.    NON-CAI YR 2             12.1000         0.6050         7.2276        52.2384     (    20)

G3                          9.    GRADE NINE              385.2000        10.1368        17.5751       308.8861     (    38)
   RGP                      1.    CAI YR 2                323.3000        12.9320        15.9304       253.7772     (    25)
   RGP                      2.    NON-CAI YR 2             61.9000         4.7615        19.9856       399.4242     (    13)

G3                         10.    GRADE TEN               316.9000         7.2023        11.6478       135.6717     (    44)
   RGP                      1.    CAI YR 2                 79.3000         6.1000        11.5739       133.9545     (    13)
   RGP                      2.    NON-CAI YR 2            237.6000         7.6645        11.8378       140.1335     (    31)

G3                         11.    GRADE ELEVEN             56.5000         3.7667        10.1349       102.7153     (    15)
   RGP                      2.    NON-CAI YR 2             56.5000         3.7667        10.1349       102.7153     (    15)
```

TABLE B10
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
MATHEMATICS NCE PRETEST YEAR 2

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S' - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    W35        MATH PRETEST NCE SCORE 81
    BROKEN DOWN BY    W3         GRADE LEVEL 81
                BY    MGP        MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                   CODE      VALUE LABEL                  SUM           MEAN         STD DEV       VARIANCE        N

FOR ENTIRE POPULATION                                          14893.4980      42.1912       13.8677       192.3144    (   353)


W3                           1.      GRADE ONE                  2191.5997      40.5852       17.0820       291.7941    (    54)
   MGP                       1.      CAI YR 2                    532.4999      35.5000       15.7016       246.5414    (    15)
   MGP                       2.      NON-CAI YR 2               1659.0998      42.5410       17.3785       302.0114    (    39)

W3                           2.      GRADE TWO                  2878.4997      42.9627       14.7151       216.5336    (    67)
   MGP                       1.      CAI YR 2                   1003.3995      41.8083       13.4807       181.7295    (    24)
   MGP                       2.      NON-CAI YR 2               1875.0998      43.6070       15.4778       239.5621    (    43)

W3                           3.      GRADE THREE                2684.8996      44.0147       12.6417       159.8116    (    61)
   MGP                       1.      CAI YR 2                   1204.1998      46.3154       15.5951       243.2077    (    26)
   MGP                       2.      NON-CAI YR 2               1480.6997      42.3057        9.8049        96.1370    (    35)

W3                           4.      GRADE FOUR                 3224.6995      41.8792       13.1532       173.0067    (    77)
   MGP                       1.      CAI YR 2                   1501.0998      40.5703       13.6694       186.8522    (    37)
   MGP                       2.      NON-CAI YR 2               1723.5998      43.0900       12.7104       161.5532    (    40)

W3                           5.      GRADE FIVE                 3094.4996      41.8176       13.7624       189.4034    (    74)
   MGP                       1.      CAI YR 2                   1496.6998      42.7629       13.5078       182.4594    (    35)
   MGP                       2.      NON-CAI YR 2               1597.7998      40.9692       14.1081       199.0390    (    39)

W3                           6.      GRADE SIX                   819.2999      40.9650        7.0518        49.7277    (    20)
   MGP                       1.      CAI YR 2                    599.2999      42.8071        7.4232        55.1038    (    14)
   MGP                       2.      NON-CAI YR 2                220.0000      36.6667        3.7447        14.0226    (     6)

  TOTAL CASES =      436
MISSING CASES =       83 OR  19.0 PCT.
```

TABLE B11

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation

MATHEMATICS NCE POST TEST YEAR 2

```
- - - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    W37        MATH POSTTEST NCE SCORE 81
    BROKEN DOWN BY    W3         GRADE LEVEL 81
                BY    MGP        MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE     VALUE LABEL                    SUM          MEAN         STD DEV       VARIANCE        N

FOR ENTIRE POPULATION                                          17352.4980      49.1572      15.5355       241.3522    (   353)

W3                         1.      GRADE ONE                    2895.4997      53.6204      19.6728       387.0182    (    54)
   MGP                     1.      CAI YR 2                      854.4997      56.9667      21.8524       477.5287    (    15)
   MGP                     2.      NON-CAI YR 2                 2040.9998      52.3333      18.9139       357.7375    (    39)

W3                         2.      GRADE TWO                    3623.1997      54.0776      17.5054       306.4375    (    67)
   MGP                     1.      CAI YR 2                     1381.0000      57.5417      16.0809       258.5941    (    24)
   MGP                     2.      NON-CAI YR 2                 2242.1998      52.1442      18.1452       329.2492    (    43)

W3                         3.      GRADE THREE                  3021.7996      49.5377      14.1627       200.5834    (    61)
   MGP                     1.      CAI YR 2                     1363.6998      52.4500      16.3974       268.8735    (    26)
   MGP                     2.      NON-CAI YR 2                 1658.0998      47.3743      12.0402       144.9655    (    35)

W3                         4.      GRADE FOUR                   3582.7996      46.5299      13.4446       180.7576    (    77)
   MGP                     1.      CAI YR 2                     1668.3998      45.0919      13.0806       171.1013    (    37)
   MGP                     2.      NON-CAI YR 2                 1914.3998      47.8600      13.8032       190.5296    (    40)

W3                         5.      GRADE FIVE                   3321.1995      44.8811      12.8343       164.7202    (    74)
   MGP                     1.      CAI YR 2                     1611.8998      46.0543      12.1232       146.9731    (    35)
   MGP                     2.      NON-CAI YR 2                 1709.2997      43.8282      13.5105       182.5254    (    39)

W3                         6.      GRADE SIX                     907.9999      45.4000       9.0275        81.4958    (    20)
   MGP                     1.      CAI YR 2                      634.9999      45.3571       8.8577        78.4580    (    14)
   MGP                     2.      NON-CAI YR 2                  273.0000      45.5000      10.2799       105.6760    (     6)

  TOTAL CASES =        436
MISSING CASES =         83 OR  19.0 PCT.
```

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TABLE B12
Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation
MATHEMATICS GAIN YEAR 2

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    MGAIN       MATH NCE GAIN
     BROKEN DOWN BY   M3          GRADE LEVEL 81
                 BY   MGP         MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                        CODE      VALUE LABEL                  SUM          MEAN        STD DEV       VARIANCE         N

FOR ENTIRE POPULATION                                             2458.9999        6.9660       15.4763       239.5170   (   353)


M3                                1.      GRADE ONE                703.8999       13.0352       19.9050       396.2082   (    54)
   MGP                            1.      CAI YR 2                 322.0000       21.4667       23.6657       560.0065   (    15)
   MGP                            2.      NON-CAI YR 2             381.9000        9.7923       17.5331       307.4111   (    39)

M3                                2.      GRADE TWO                744.7000       11.1149       19.9002       396.0177   (    67)
   MGP                            1.      CAI YR 2                 377.6001       15.7333       19.4450       378.1093   (    24)
   MGP                            2.      NON-CAI YR 2             367.1000        8.5372       19.9063       396.2624   (    43)

M3                                3.      GRADE THREE              336.9000        5.5230       13.1703       173.4574   (    61)
   MGP                            1.      CAI YR 2                 159.5000        6.1346       13.6717       186.9187   (    26)
   MGP                            2.      NON-CAI YR 2             177.4000        5.0686       12.9678       168.1540   (    35)

M3                                4.      GRADE FOUR               358.1000        4.6506       11.6175       134.9666   (    77)
   MGP                            1.      CAI YR 2                 167.3000        4.5216       11.7871       138.9351   (    37)
   MGP                            2.      NON-CAI YR 2             190.8000        4.7700       11.6074       134.7324   (    40)

M3                                5.      GRADE FIVE               226.6999        3.0635       12.0465       145.1177   (    74)
   MGP                            1.      CAI YR 2                 115.2000        3.2914       10.5431       111.1556   (    35)
   MGP                            2.      NON-CAI YR 2             111.4999        2.8590       13.3578       178.4319   (    39)

M3                                6.      GRADE SIX                 88.7000        4.4350        7.1740        51.4750   (    20)
   MGP                            1.      CAI YR 2                  35.7000        2.5500        5.3097        28.1929   (    14)
   MGP                            2.      NON-CAI YR 2              53.0000        8.8333        9.3226        86.9147   (     6)

  TOTAL CASES =       436
MISSING CASES =        83 OR  19.0 PCT.
```

TABLE B13
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
READING NCE PRETEST YEAR 3

```
- - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE   X31       READING PRETEST NCE SCORE 82
    BROKEN DOWN BY   X3        GRADE LEVEL 82
                BY   RGP       READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE     VALUE LABEL                    SUM          MEAN        STD DEV       VARIANCE        N

FOR ENTIRE POPULATION                                         11439.3981     37.1409      11.8315      139.9836    (   308)


X3                         2.      GRADE TWO                   2285.4997     38.0917      14.6403      214.3394    (    60)
   RGP                     1.      CAI YR 3                    1036.1999     39.8538      12.0338      144.8114    (    26)
   RGP                     2.      NON-CAI YR 3                1249.2998     36.7441      16.4070      269.1898    (    34)

X3                         3.      GRADE THREE                 2170.6997     37.4259      11.1970      125.3728    (    58)
   RGP                     1.      CAI YR 3                    1334.2998     38.1229      10.9842      120.6535    (    35)
   RGP                     2.      NON-CAI YR 3                 836.3999     36.3652      11.6797      136.4166    (    23)

X3                         4.      GRADE FOUR                  2349.4996     36.7109       9.4934       90.1238    (    64)
   RGP                     1.      CAI YR 3                    1278.6998     38.7485       7.5484       56.9782    (    33)
   RGP                     2.      NON-CAI YR 3                1070.7998     34.5419      10.9112      119.0551    (    31)

X3                         5.      GRADE FIVE                  2614.8995     36.3180      12.4085      153.9716    (    72)
   RGP                     1.      CAI YR 3                    1484.9997     37.1250       9.7802       95.6522    (    40)
   RGP                     2.      NON-CAI YR 3                1129.8998     35.3094      15.1795      230.4176    (    32)

X3                         6.      GRADE SIX                   2018.7997     37.3852      11.0318      121.7013    (    54)
   RGP                     1.      CAI YR 3                    1343.7998     37.3278      12.1751      148.2340    (    36)
   RGP                     2.      NON-CAI YR 3                 674.9999     37.5000       8.6147       74.2130    (    18)

  TOTAL CASES =      319
MISSING CASES =       11 OR   3.4 PCT.
```

TABLE B14
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
READING NCE POST TEST YEAR 3

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE    X33        READING POSTTEST NCE SCORE 82
    BROKEN DOWN BY    X3         GRADE LEVEL 82
                BY    RGP        READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                     CODE     VALUE LABEL               SUM          MEAN        STD DEV       VARIANCE        N

FOR ENTIRE POPULATION                                       13061.5982      42.4078      12.9838       168.5780    (  308)


X3                             2.     GRADE TWO              2665.8996      44.4317      16.3954       268.8095    (   60)
   RGP                         1.     CAI YR 3               1257.1998      48.3538      11.0349       121.7698    (   26)
   RGP                         2.     NON-CAI YR 3           1408.6998      41.4323      19.1623       367.1925    (   34)

X3                             3.     GRADE THREE            2513.7996      43.3414      13.4807       181.7231    (   58)
   RGP                         1.     CAI YR 3               1593.8997      45.5400      15.1445       229.3556    (   35)
   RGP                         2.     NON-CAI YR 3            919.8999      39.9956       9.8482        96.9877    (   23)

X3                             4.     GRADE FOUR             2507.8996      39.1859      10.1791       103.6142    (   64)
   RGP                         1.     CAI YR 3               1446.1998      43.8242       9.9721        99.4438    (   33)
   RGP                         2.     NON-CAI YR 3           1061.6998      34.2484       7.9156        62.6592    (   31)

X3                             5.     GRADE FIVE             2976.4996      41.3403      12.2672       150.4844    (   72)
   RGP                         1.     CAI YR 3               1671.4998      41.7875      12.8256       164.5001    (   40)
   RGP                         2.     NON-CAI YR 3           1304.5998      40.7812      11.7101       137.1254    (   32)

X3                             6.     GRADE SIX              2397.4997      44.3981      11.5406       133.1851    (   54)
   RGP                         1.     CAI YR 3               1640.3998      45.5667      12.6654       160.[illegible]    (   36)
   RGP                         2.     NON-CAI YR 3            757.0999      42.0611       8.6743        75.2437    (   18)

  TOTAL CASES =       319
MISSING CASES =        11 OR   3.4 PCT.
```

TABLE B15

Descriptive Statistics for NCE Pretest, Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation

READING NCE GAIN YEAR 3

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - -
CRITERION VARIABLE    RGAIN      READING NCE GAIN
    BROKEN DOWN BY    X3         GRADE LEVEL 82
                BY    RGP        READING GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                  SUM          MEAN        STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                          1622.2000      5.2669      10.1618     103.2621   (   308)


X3                           2.      GRADE TWO                  380.3999      6.3400      12.8795     165.8821   (    60)
   RGP                       1.      CAI YR 3                   221.0000      8.5000      12.1776     148.2932   (    26)
   RGP                       2.      NON-CAI YR 3               159.4000      4.6882      13.3320     177.7422   (    34)

X3                           3.      GRADE THREE                343.0999      5.9155       9.6675      93.4616   (    58)
   RGP                       1.      CAI YR 3                   259.6000      7.4171      10.2110     104.2644   (    35)
   RGP                       2.      NON-CAI YR 3                83.5000      3.6304       8.4833      71.9657   (    23)

X3                           4.      GRADE FOUR                 158.4001      2.4750       9.3625      87.6536   (    64)
   RGP                       1.      CAI YR 3                   167.5000      5.0758       8.3862      70.3281   (    33)
   RGP                       2.      NON-CAI YR 3                -9.1000     -0.2935       9.6796      93.6339   (    31)

X3                           5.      GRADE FIVE                 361.6001      5.0222      10.3416     106.9493   (    72)
   RGP                       1.      CAI YR 3                   186.5001      4.6625      10.6531     113.4895   (    40)
   RGP                       2.      NON-CAI YR 3               175.1000      5.4719      10.0894     101.7956   (    32)

X3                           6.      GRADE SIX                  378.7000      7.0130       7.1511      51.1381   (    54)
   RGP                       1.      CAI YR 3                   296.6000      8.2389       6.8058      46.3196   (    36)
   RGP                       2.      NON-CAI YR 3                82.1000      4.5611       7.3837      54.5190   (    18)

  TOTAL CASES =       319
MISSING CASES =        11 OR   3.4 PCT.
```

TABLE B16

Descriptive Statistics for NCE Pretest. Post Test and Gain Scores by Treatment and Grade Level for Reading and Mathematics in Each Year of the Program's Operation

MATHEMATICS NCE PRETEST YEAR 3

```
- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   X35       MATH PRETEST NCE SCORE 82
    BROKEN DOWN BY   X3        GRADE LEVEL 82
                BY   MGP       MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                    SUM           MEAN        STD DEV       VARIANCE         N

FOR ENTIRE POPULATION                                            6624.7990       38.5163      11.6700       136.1886    (   172)


X3                            1.     GRADE ONE                    662.7999       41.4250      15.7577       248.3359    (    16)
   MGP                        1.     CAI YR 3                     157.3000       39.3250       5.0599        25.6025    (     4)
   MGP                        2.     NON-CAI YR 3                 505.4999       42.1250      18.1515       329.4783    (    12)

X3                            2.     GRADE TWO                   1095.6999       37.7828      11.8446       140.2953    (    29)
   MGP                        1.     CAI YR 3                     496.8999       38.2231       6.8245        46.5736    (    13)
   MGP                        2.     NON-CAI YR 3                 598.7999       37.4250      14.9773       224.3207    (    16)

X3                            3.     GRADE THREE                 1041.2999       37.1893      11.1249       123.7625    (    28)
   MGP                        1.     CAI YR 3                     316.7000       39.5875      14.9837       224.5127    (     8)
   MGP                        2.     NON-CAI YR 3                 724.5999       36.2300       9.4746        89.7675    (    20)

X3                            4.     GRADE FOUR                  1368.6996       36.9919      10.1996       103.8285    (    37)
   MGP                        1.     CAI YR 3                     540.4999       36.0333      11.0100       121.2209    (    15)
   MGP                        2.     NON-CAI YR 3                 828.1999       37.6454       9.8017        96.0745    (    22)

X3                            5.     GRADE FIVE                  1577.8996       36.6953      11.0858       122.8947    (    43)
   MGP                        1.     CAI YR 3                     861.0999       35.8792      11.7098       137.1138    (    24)
   MGP                        2.     NON-CAI YR 3                 716.7999       37.7263      10.4663       109.5432    (    19)

X3                            6.     GRADE SIX                    878.3999       46.2316      10.0956       101.9212    (    19)
   MGP                        1.     CAI YR 3                     470.2999       47.0300       7.5598        57.1512    (    10)
   MGP                        2.     NON-CAI YR 3                 408.0999       45.3444      12.7607       163.3453    (     9)

  TOTAL CASES =      181
MISSING CASES =        9 OR   5.0 PCT.
```

TABLE B17
Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation
MATHEMATICS NCE POST TEST YEAR 3

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- - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   X37        MATH POSTTEST NCE SCORE 82
    BROKEN DOWN BY   X3         GRADE LEVEL 82
                BY   MGP        MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                    CODE     VALUE LABEL                  SUM          MEAN       STD DEV      VARIANCE        N

FOR ENTIRE POPULATION                                         8505.7989       49.4523     13.3088      177.1234    (  172)


X3                            1.     GRADE ONE                 829.1999       51.8250     16.0016      256.0499    (   16)
   MGP                        1.     CAI YR 3                  192.1000       48.0250     17.8236      317.6524    (    4)
   MGP                        2.     NON-CAI YR 3              637.0999       53.0917     15.9849      255.5171    (   12)

X3                            2.     GRADE TWO                1660.2998       57.2517     17.8843      319.8483    (   29)
   MGP                        1.     CAI YR 3                  865.2999       66.5615     14.1857      201.2342    (   13)
   MGP                        2.     NON-CAI YR 3              794.9999       49.6875     17.3180      299.9145    (   16)

X3                            3.     GRADE THREE              1394.5998       49.8071     11.3190      128.1207    (   28)
   MGP                        1.     CAI YR 3                  386.0999       48.2625      9.5770       91.7199    (    8)
   MGP                        2.     NON-CAI YR 3             1008.4999       50.4250     12.1189      146.8683    (   20)

X3                            4.     GRADE FOUR               1622.8998       43.8622     10.3129      106.3552    (   37)
   MGP                        1.     CAI YR 3                  703.1999       46.8800      9.4037       88.4303    (   15)
   MGP                        2.     NON-CAI YR 3              919.6999       41.8045     10.6033      112.4290    (   22)

X3                            5.     GRADE FIVE               2057.4997       47.8488     10.9358      119.5921    (   43)
   MGP                        1.     CAI YR 3                 1146.7998       47.7833     11.1281      123.8336    (   24)
   MGP                        2.     NON-CAI YR 3              910.6998       47.9316     10.9911      120.8039    (   19)

X3                            6.     GRADE SIX                 941.2999       49.5421     10.6876      114.2248    (   19)
   MGP                        1.     CAI YR 3                  512.5999       51.2600      9.1293       83.3449    (   10)
   MGP                        2.     NON-CAI YR 3              428.6999       47.6333     12.4682      155.4556    (    9)

  TOTAL CASES =      181
MISSING CASES =        9 OR   5.0 PCT.
```

TABLE B13

Descriptive Statistics for NCE Pretest, Post Test
and Gain Scores by Treatment and Grade Level for
Reading and Mathematics in Each Year of the
Program's Operation

MATHEMATICS NCE GAIN YEAR 3

```
- - - - - - - - - - - - - - - - - -  D E S C R I P T I O N   O F   S U B P O P U L A T I O N S  - - - - - - - - - - - - - - - - -
CRITERION VARIABLE   MGAIN      MATH NCE GAIN
    BROKEN DOWN BY   X3         GRADE LEVEL 82
                BY   MGP        MATH GROUP
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

VARIABLE                  CODE    VALUE LABEL                 SUM          MEAN        STD DEV       VARIANCE          N

FOR ENTIRE POPULATION                                     1880.9999       10.9360       13.7471       188.9833     (   172)

X3                          1.    GRADE ONE                166.4001       10.4000       16.8521       283.9945     (    16)
   MGP                      1.    CAI YR 3                  34.8000        8.7000       18.8480       355.2465     (     4)
   MGP                      2.    NON-CAI YR 3             131.6000       10.9667       16.9994       288.9787     (    12)

X3                          2.    GRADE TWO                564.6000       19.4690       15.4757       239.4958     (    29)
   MGP                      1.    CAI YR 3                 368.4000       28.3385       13.6102       185.2375     (    13)
   MGP                      2.    NON-CAI YR 3             196.2000       12.2625       13.2399       175.2994     (    16)

X3                          3.    GRADE THREE              353.3000       12.6179       15.6768       245.7615     (    28)
   MGP                      1.    CAI YR 3                  69.4000        8.6750       10.0869       101.7455     (     8)
   MGP                      2.    NON-CAI YR 3             283.9000       14.1950       17.3951       302.5910     (    20)

X3                          4.    GRADE FOUR               254.2000        6.8703       10.6730       113.9132     (    37)
   MGP                      1.    CAI YR 3                 162.7000       10.8467       10.1400       102.8198     (    15)
   MGP                      2.    NON-CAI YR 3              91.5000        4.1591       10.3797       107.7387     (    22)

X3                          5.    GRADE FIVE               479.5999       11.1535       11.1930       125.2830     (    43)
   MGP                      1.    CAI YR 3                 285.6999       11.9042       11.2270       126.0465     (    24)
   MGP                      2.    NON-CAI YR 3             193.9000       10.2053       11.3828       129.5672     (    19)

X3                          6.    GRADE SIX                 62.9000        3.3105        8.9388        79.9021     (    19)
   MGP                      1.    CAI YR 3                  42.3000        4.2300        9.7599        95.2556     (    10)
   MGP                      2.    NON-CAI YR 3              20.6000        2.2889        8.3896        70.3861     (     9)

  TOTAL CASES =       181
MISSING CASES =         9 OR    5.0 PCT.
```